THE PHILOSOPHICAL REVIEW

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THE PHILOSOPHICAL REVIEW.

THE PROBLEM OF KNOWLEDGE FROM THE STANDPOINT OF VALIDITY.

I.

THE first and most obvious difficulty in the way of any satisfactory theory of knowledge is a want of clearness and uniformity of judgment as to the necessity and legitimacy of the inquiry. The problem in itself gives occasion for a suspicion of some such fallacy as that to which Representative Perception must succumb, and the suspicion is allowed to acquire almost an a priori force by writers who on general grounds deny the possibility of such theory. Hegel's refutation of the Critical Philosophy in the *Encyclopädie der philosophischen Wissenschaften* is a case in point. Here the writer, either misconstruing or misrepresenting Kant's actual method, proceeds to direct against him a polemic based on the internal contradictoriness of the critical attitude. The substance of Hegel's objection is indicated by the simile in which he compares the aim of Criticism to "the wise purpose of the schoolman to learn to swim before venturing into the water."[1] Kuno Fischer's reply, endorsed by Vaihinger,[2] that the question is not one of learning to swim but of explaining the act of swimming exposes the pointlessness of the analogy; but the essence of Hegel's error lies in the attempt to turn the specific purpose of Criticism into a general responsibility for knowledge. He accuses Kant of requiring that we should "learn to know the instrument (our power of knowing) before undertaking the work to be done by it"; whereas the truth is that Kant assumes knowledge as revealed in certain

[1] *Encycl. d. philos. Wiss.*, § 10.

[2] *Comm. zu Kants Krit. d. rein. Vern.*, Vol. I, p. 45.

specific forms under certain specific conditions—viz., in the sciences of physics and mathematics; and it is from the knowledge thus assumed that he derives the principles which become the criterion of knowledge in general.

This attitude, postulated by Hegel and exemplified by Kant, must be taken as the first condition of the problem. Knowledge itself is the presupposition of any theory of knowledge; and it is under this presupposition that Epistemology must proceed. The Critical Philosophy represents one line of advance—highly individual in some of its developments and in the combination of spiritual influences which modified its progress. That philosophy is now a stupendous heap of ruins; but the fragments are instinct with the suggestions of reconstruction, and it will be a convenience to utilize some of the material in a general survey of the conditions which seem to underlie all significant inquiry in this region.

In terms of the presupposition, then, epistemology is an investigation as to the possibility of that which we are bound to accept not as a possibility but as in some sense actual. This of itself suggests a further component in the required preliminary orientation. The theory of knowledge is usually entangled at a very early point in the theory of reality; and of course where the question is one of validity, the inquiry is bound to issue sooner or later in the region of ultimate problems. But it is a tactical error to force on the final speculative issue before the ground has been reconnoitred and before it is certain that such issue can be no longer deferred. The suggestion here is that we do not make sufficient use of the distinction we draw between epistemology and metaphysics, thereby forfeiting the benefits of simplification which might be expected to accrue from the scientific abstraction of the problem of knowing from the problem of being. And further, the metaphysical investigation is directed to the definition of reality in its most general terms; whereas the whole purport of epistemological inquiry may quite well be to determine whether it is not something *specific* in the reference to reality, which underlies the validity of our knowledge. If this is so it would be a mistake in method to raise the final problem at

the outset, merely because the way ought first to be prepared by a process designed to render exact the terms in which the ultimate relation of knowledge to the real may be profitably considered.

The special occasion which is responsible for precipitating the metaphysical issue is easily indicated. Knowledge characteristically represents its *object* as real; and this feature is taken as final in determining the form which the problem shall assume. The inquiry therefore immediately gives rise to the question whether and on what grounds knowledge is entitled to represent its object as real; and in an instant we are committed to the points at issue between phenomenalism and realism.

Now it may be that epistemology is right in regarding the claim of knowledge to represent the real as the crucial question. But it is certainly not entitled to assume this without critical investigation. The claim that knowledge makes for itself is an obvious feature in the character of knowledge, but it is not the only, and perhaps not the most obvious character; so that the preferential treatment accorded to it calls for demonstration.

Once more, the claim to represent the real is not of the slightest help until it is made clear to what *real* the claim refers. And here it may be remarked in general that philosophy continually suffers from the uncritical use of the antithesis between appearance and reality. Perhaps it would not be too much to assert that the problem of philosophy never is the problem of reality in contradistinction to something imagined as non-real, but always that of the *what real* or the sense in which reality may and may not be affirmed.

Here for example we are confronted with our initial assumption that knowledge is actual and therefore real. In addition we find this real or actual knowledge characterized by the claim which it makes for itself to represent a certain reality in its object. The question is: what reality? Obviously not the reality which we are compelled to assume in the knowledge itself to which the object appears as a representation. But if this is so, it follows that from the strictly epistemological point of view we are bound to accord priority, not to the reality which knowledge supposes in that which in some sense lies beyond itself, but to that reality

which knowledge as an immediate datum actually is. It will, therefore, be necessary by way of orientation to reverse the usual and seemingly natural order, and to substitute for the phenomenality of knowledge and the reality of its object the reality of knowledge and the phenomenality of its object. The position at this stage is equally indifferent to phenomenalism and realism. The distinction that has been drawn is of purely methodological significance and has neither the depth nor the finality of the Kantian designation of the forms of experience and the object revealed in them as empirically real and transcendentally ideal.

From these preliminary observations the first move in the argument follows of its own accord. If attention is to be directed to knowledge itself as a presupposed actuality, it is apparent that we must look within and not beyond knowledge for the indication of any differences that may throw light upon the question of its validity. Now there is a very obvious distinction here, expressive of an internal standard—the distinction of the scientific and the non-scientific. From within the concept of knowledge, in so far as this subordinates itself to an ideal, it goes without saying that knowledge is at least in some degree and in some sense determinable by the conditions which render it scientific.

On this aspect of the truth Kant lays excessive emphasis. It furnishes content to the original assumption as understood by him. In this, however, he possibly passes the limit of legitimate presupposition. For however the validity of knowledge be bound up with the character which renders it amenable to scientific form and to normative relations under such form, so long as the scientific and non-scientific remains a distinction of *knowledge*, we are not entitled to *assume* that the scientific is as such and in all respects identical with the sum of conditions which constitute epistemological validity. It remains a problem whether knowledge is definable in terms of scientific value or whether the concept of science has itself to be authenticated by reference to some more general character in the concept of knowledge—in a word, whether from the standpoint of validity science is to subsume knowledge or knowledge to subsume science.

According to the answer given to these questions, or the bias shown, philosophy becomes prevailingly rationalistic or prevailingly humanistic. A general estimate of results will help to throw light on the significance of the problem as it has been stated. On the one hand, the refusal to accede to the scientific complete responsibility for knowledge has led in the end to the introduction of an extra-epistemological criterion, whether custom or utility or fitness to survive—in any case a criterion involving an ultimate abandonment of the problem as intrinsically a problem of knowledge. The Sophistic movement among the Greeks and the modern Pragmatic movement, along with which, from this point of view, must be classed Radical Empiricism, are sufficient evidence of what is a uniform tendency. On the other hand, the Rationalistic and Idealistic thinkers who have erected the scientific character into the sole determinant of knowledge are confronted with a vast phenomenality of actual experience, which it is impossible to locate elsewhere than in the realm of the cognitive but which, as so determined, it is equally impossible either to deny or to include in the category of knowledge. The predicament for thought might be expressed by saying that we have here an actually *known* which is yet not *knowable*.

This is easily illustrated from the enigmatic position of sense perception in the great idealistic systems of the Greeks. Plato in the *Theætetus* and Aristotle in the *Metaphysics* and elsewhere have given expression to a view which seems ultimately to imply a parallelism or variable concomitance between the object of apprehension and the apprehension of the object at different levels of reality and truth. The object of sense is revealed and revealed completely in sensation; but neither is the object of sensation completely real nor is sensation itself real knowledge.[1] Knowledge is admitted only on the scientific level, where, in Aristotle's phraseology, it finds its object in the "invariable."

Putting together these two distinct tendencies of thought, we find that according to the degree of emphasis laid upon the

[1] A single quotation from Aristotle will sufficiently illustrate the antithesis: *ἔτι δὲ τῶν αἰσθήσεων οὐδεμίαν ἡγούμεθα εἶναι σοφίαν· καίτοι κυριώταταί γ'εἰσὶν αὗται τῶν καθ' ἕκαστα γνώσεις. Met.* A, 981 b 9–11.

normative distinctions which knowledge discloses within itself, either there is no genuinely epistemological criterion at all, or else, if there is one, it discredits a large proportion of what mankind ordinarily understand as knowledge. Both positions are sufficiently forbidding to make it advisable, before further committing ourselves, to pause and ask whether the alternation exhausts the possibilities of the situation. The questions that naturally suggest themselves are these. On the one hand, need the inability to acknowledge the exclusive claims of science drive us beyond knowledge itself for the ultimate grounds of validity? On the other, need the epistemological primacy of the scientific be interpreted to mean either that the scientific is the only true knowledge or that all knowledge, in order to establish itself as such, must appear as amenable to the scientific form?

When stated in this way the disjunction does not appear so obviously exhaustive. Between the extreme positions there is an interspace which may turn out capable of giving support to considerations of weight. For example, while the distinction of the scientific and the non-scientific is too characteristic to be unconnected with the conditions of validity, it may be that there is some way of employing the distinction in the interests of the problem, different from the methods of both the large spiritual tendencies which we have summarized under the heads of pragmatism and rationalism.

In order to discover whether this is so it will be necessary to ask: What exactly is the use to which the two conflicting theories turn this important distinction? A little reflection will disclose a common presupposition underlying both views. Rationalism and empirico-humanism rest alike on the assumption that if the distinction of the scientific and the non-scientific is to be taken as determinant of epistemological validity, the only meaning we can give to the proposition is that the scientific and the non-scientific are respectively identical with the epistemologically valid and invalid. This the rationalists affirm and the pragmatists deny. But it is not necessary to do either. The truth may be that the assumption is untenable. If so, a new and somewhat tempting possibility is revealed.

If we further unfold the presupposition common to both views it appears to involve the following consequence. The antithesis of the scientific and the non-scientific is of such a nature that if it is admitted as a criterion of knowledge, the knowledge thus determined will in turn destroy the force of the antithesis. That is to say, rationalism demands the subordination of all knowledge to the accredited standard form, thus negating the non-scientific as a genuinely distinct or, so to speak, natural kind. The opposite tendency is equally destructive to the antithesis. For generally speaking the fundamental significance of empiricism and pragmatism alike is the obliteration of any ultimate distinction of *epistemological* value between raw experience or naked phenomenality on the one hand and standardized scientific truth on the other.

This discovery of a common presupposition and a common issue in the conflicting views discloses the possible via media for which we have been looking. If on both theories it is the character of knowledge, rightly understood, to extinguish or tend to extinguish the antithesis of the scientific and the non-scientific, and if, further, the contradictions which divide the two opposing schools can be definitely traced back to their common assumptions, the inference is that the opposite hypothesis ought to be tried, and that, instead of finding the characteristic of knowledge in its tendency to extinguish, we should seek it in the capacity to maintain and give reality to, the distinction.

The elucidation of this remark will be best effected by returning to the theory which stands in such unique and significant contrast to the views we have been considering, and by showing how the position indicated may be worked out of various predicaments in the Critical Philosophy.

Kant then obviously employs the scientific as the criterion of knowledge, and he finds the scientific most completely embodied in the sciences of physics and mathematics. In these there is that universality which can be relied upon because it is one with necessity. This is an essential feature, indicating the exact connection in which Kant introduces the two cognate sciences. His inquiry ostensibly, in its first form, is not as to the criterion

of knowledge qua knowledge, but as to the criterion of scientific knowledge; and although his problem deepens almost immediately into the more general inquiry, which is presupposed in the other, still the preliminary aspect of the investigation must be taken into account. What Kant sets out to elucidate is the possibility of metaphysics—a kind of knowledge, which, on account of the generality of its propositions, pretends to scientific form, and must therefore be held to stand or fall according as this generality can or can not be shown to rest upon scientific necessity. The position is clear. It is as a criterion of *scientific* knowledge that Kant employs the sciences of mathematics and physics. So far at least there is not that immediate identification of knowledge as a whole with scientific knowledge, which we have seen to be destructive of a highly significant antithesis.

The result of Kant's investigation is to prove that metaphysics is not possible as scientific knowledge; and as metaphysics does not pretend to exist as anything else, the conclusion is that this "queen of the sciences" must be excluded from the sphere of knowledge altogether. There can be little doubt that the tendency which hereupon asserts itself irresistibly in Kant's mind to restrict knowledge to the scientific form is not unconnected with this predicament, which, strictly speaking, applies only to the supposed but now discredited science of metaphysics. The underlying paralogism resolves itself into the ambiguity of arguing that since one kind of cognition, which, from its nature, in order to be knowledge, must be scientific, breaks down as science and hence as knowledge, all knowledge which falls short of a scientific character must for similar reasons be discredited. That Kant goes the whole length of this position it would of course be ridiculous to maintain. His real position would be more exactly indicated if we said that in determining the conditions of knowledge he makes no adequate use of that empirical, and, as such, general knowledge which he recognizes as a fact. In considering his predilection for a scientific, that is, in his sense, *a priori* formulation of knowledge, it must be constantly kept in mind that what he is denying is the

scientific validity of metaphysics—a truth which attains expression in the fact that the problem is characteristically made to rest on the distinction of the phenomenal and the noumenal. That there is more than this implied follows from the reflection that the distinction of the phenomenal and the noumenal cannot be taken as exactly equivalent to the distinction of the known and the unknown or of the knowable and the unknowable; and this is only more markedly true if we accept the identification of knowledge and the scientific. Obviously the phenomenal as such and altogether is not characterized by that strict universality and necessity which are the mark of scientific knowledge. The problem therefore forces itself upon us whether the distinction of the scientific and the non-scientific, which breaks out within the phenomenal itself, is to be identified with the distinction of the known and the unknown.

Kant's answer to this question is contained in the demonstration of scientific knowledge which he gives in the deduction of the categories. That the categories should require a deduction is itself significant; for it indicates that Kant in order to make good his claim for the sciences is obliged to abandon his original foothold within them. Of course there is no ambiguity, far less inconsistency, here. Kant nowhere succumbs to the illusion that his a priori principles demand a derivative exposition. But even a transcendental deduction, which is perfectly in order, betrays an assumption as fundamental as that of science itself—the assumption of a distinction within the phenomenal, of which the scientific is only one member.

In general terms Kant's position amounts to this. The validity of the scientific depends upon the fact that its principles are identical with the principles which render experience in its ordinary unscientific form possible. Thus the principle of causality is universally necessary and therefore conforms to the scientific character, because the experience of an event in time presupposes a kind of succession different from the fortuitous and reversible succession of our subjective impressions.

The constitutive nature of the categories introduces great difficulties. Is it true in point of fact that in order to have an

experience of events in time we must already apprehend them as standing in a relation which, when examined, turns out to be that very exactly determined relation known to the sciences and to philosophy as causality? Or is not causality a reflective category which we apply only after the event and even then with considerable analytic preparation? These questions merge in the general difficulty of the concept of experience as applied in the transcendental deductions. If the categories are constitutive of experience, then experience is constituted by those universal principles which render knowledge scientific. We *know* the object by exactly the same process by which we constitute it an object at all. How then is scientific knowledge distinguished from the knowledge which is experience? On the other hand, the distinction must exist if it is to be used in order to establish the categories.

The ordinary ways out of the difficulty are not open to Kant. For instance the character of scientific universality as understood by him precludes the use of the obscure distinction between the implicit and the explicit in the transition from experience to knowledge. Again, the a priori principles are not in the nature of hypotheses tentatively advanced with a view to ultimate verification. The intermediary machinery merely serves to break up by way of further analysis—an analysis of doubtful legitimacy—the distinction which is the source of trouble. The Synthesis of Reproduction in Imagination, virtually an extended application of the Humian principle of association, contributes nothing at all to the objective estimate of truth; and no considerations of a subjective nature can be taken seriously into account where, as in the present case, the conditions of validity are not only connected, but are identical, with the conditions which remove knowledge from the sphere of subjective impression and give it the distinctive character of objectivity. But when we come to the objective side we find the same transition from experience to science no more satisfactorily mediated by the machinery of Schematism than on the subjective side by Imagination. With the advent of Schematism we are already in the region of that absolute universality, resting on a priori grounds,

which makes it hard to draw any theoretical distinction between knowledge and experience.

No doubt a full elucidation of the point would involve a complete discussion of Kant's extremely anbiguous terminology—in the present instance particularly his use of the word "Erfahrung"; but apart from this, it is obvious that there is a real difficulty for thought, which, as in the case of the other views we have considered, turns upon the failure to maintain consistently a certain antithesis, each member of which is necessary as a criterion of the other.

The same conclusion may be arrived at along another line by considering the tendency (from which Kant, as we have seen, is not immune) to designate knowledge exclusively in terms of its universal scientific aspect. Here the crucial point is discovered in the profoundly mysterious cleavage which divides one science from another. The process which leads behind these differences to a common concept of the scientific involves a degree of abstraction that leaves it uncertain whether we are dealing any longer with an aspect of knowledge specifically scientific or only with knowledge in its most general terms. And in the case of Kant, it is to be observed, we are concerned only with the cognate sciences of physics and mathematics, where differences of principle might reasonably be supposed to be at a minimum. Had not his metaphysical views precluded his considering in this connection the biological and the normative sciences, along with formal logic, he would have had to face at the epistemological rather than, as he afterwards does, at the metaphysical level, the irreducible differences which separate fact from value, mechanism from teleology, the procedure by genuine a priority from the procedure by hypothesis.

It is true that physics and mathematics are cognate sciences; but Kant's treatment, while beginning from an apparently assumed epistemological parallelism, ends with the discovery of differences which disturb the symmetry of his plan in a way calculated to modify the natural purport of his presupposition.

The fundamental character of a scientific principle, then, is, on Kant's view, its indefeasible a priority. This, however, de-

pends on a highly specific character in the principles themselves. Thus, for instance, that which gives its a priority to space and its complete universality and therefore its scientific validity to mathematics is a perfectly definite character in intuition (not further definable in general terms) which, while positing the complete and infinite uniformity of space with itself (what Kant designates in a pregnant sense homogeneity), at the same time excludes from all participation in its content or in the set of conditions which determine its epistemological validity every principle or a priori condition which underlies any other department of scientific knowledge.

The a priority of principle, then, on which scientific knowledge depends is found, on examination, to involve, not a presupposition uniform for all science, but several distinct sets of perfectly specific and mutually exclusive presuppositions. It would not seem possible to obtain along these lines a general concept of the scientific more than that contained in the notion of science as a common designation for any form of conscious experience organized in a particular way under one or another of several ultimate principles.

In losing its general character in this sense, science appears to lose its power to direct us towards that uniform feature which should serve to differentiate knowledge. A differentia, while its function is to reduce the generic to the specific, must always itself, in order to meet the purposes of recognition, be capable of designation in general terms. But a principle which is specific in the pregnant sense, that is, ultimate, is in the position of an infima species—incapable of further general specification.

Science then is in itself the most empty of generic titles until it has been given a content by different and irreducible types of a priority. Being secondary to these, it cannot lead us to the discovery of anything so highly specific as the peculiar character of the ultimate principles of knowledge; and the question must be faced: Whence do these ultimates arise?

The answer springs directly out of the terms of the question. That which is specifically and irreducibly prior, being incapable of logical or other derivation from anything either more primitive

or more general, can be revealed in the immediacy of experience alone. The principles of scientific knowledge, which are in the nature of a prius, must therefore be the prius of *experience*—an experience which brings its presuppositions with it. Space, time and causality are given only in the experience which presupposes them. This is the epistemological significance of Kant's combination of synthesis with a priority.

In this combination Kant has what he supposes a résumé of the conditions implied in knowledge—complete universality guaranteed by a priority and objectified in experience. But when he comes to work out his formula a fresh set of difficulties appears. The combination, as he states very clearly, for example in the *Prolegomena*, is realised in the Forms of Intuition; but his pretence of basing the sciences on these forms can hardly be taken seriously. One of them, time, is simply passed over in order to furnish a precondition to a further science, which draws its whole substance from a very different set of conditions.[1] And when we turn to the one remaining form on which a science is supposed to be based we are confronted by the following obstacle. It goes without saying that the form of space as such is not the subject-matter of geometry. In order to indicate what exactly the subject-matter is, Kant is compelled to resort to the very difficult distinction between what he calls "die Form der Anschauung" and "die formelle Anschauung." The one is that universally extended space of which all determinate space is a limitation and which itself is the presupposition on which the science of geometry is assumed to be based. The other is space become an object. But what sort of an object? Clearly not an object of the commonly recognized senses; for Kant quite consistently excludes the empirical reference in determining the subject-matter of geometry. The object therefore must be conceived, as Kant conceives it, as determinable by a special sense of its own—what is known to philosophy as outer sense. This concept, however, Kant fails to render clear. It is the peculiar

[1] There has been mention of a science of chronometry founded on the form of time; but surely there is no indication that Kant ever tried to employ the form of time for any such purpose. R. Hönigswald, *Zum Begriff der Kritischen Erkenntnislehre, Kantstudien*, Vol. 13.

character of the formal intuition which is the object of outer sense that it should be constructed within the universal form of space; and the a priori nature and therefore universality of geometrical propositions depends upon this constructibility. But as a matter of fact the *formal* intuition is never definitely constructible. What we do construct is always and only the empirical image. This we may construct according to an a priori formal idea, but the formal idea which represents the principle of construction is not an intuition in the Kantian sense. There is reason to suspect that Kant has succumbed here to a natural enough confusion. It was his purpose to lend reality to science by giving experiential concreteness to the universal. The forms of intuition appeared to furnish the needed medium. Here we have universality and here we have a character in experience. But Kant fails to realize the depth of the distinction between experience itself and the presuppositions which underlie it. We never do actually experience these presuppositions as such; and what we experience never reveals that assured universality which only a presupposition can possess. The formal intuition is a product of the mythological fancy, combining into an incongruous whole elements that nature keeps apart. Kant like other thinkers has partially lapsed into the tendency to precipitate the union of experience and the ideal universality demanded by science. But he eventually rises above his error.

Among the various principles which later on in the *Critique of Pure Reason* emerge as Ideas of Reason appear the forms of space and time. The full significance of this is not always realised because the list of Ideas is not always considered in its completeness. The tendency is to think of these Ideas as merely the categories, that is, the constitutive principles of thought, in their transcendent form and purely regulative use. But in addition to the categories Kant expressly mentions the laws of specification and continuity (all in fact that is summed up under the heads of manifoldness, variety and unity) and in addition teleology, freedom and duty. The inclusion of space and time with such principles as these is highly suggestive.

It is obvious from the beginning that in confining his purview

to the sciences of physics and mathematics Kant is choosing far too narrow a basis for scientific knowledge. The inducement was undoubtedly the splendid ideal of a completely demonstrative science which should yet be rooted in the actualities of experience. His attempt to establish such has broken down; and modern mathematics has advanced by the rejection of his presuppositions, which would limit its subject-matter to the three-dimensional space of experience. But a new pathway opens out. If space, time and the categories, the presuppositions of the demonstrative a priori sciences, are in the last resort interpretable as Ideas of Reason, this will bring them into line with a host of principles to which no such epistemological preference has been accorded, and yet which preside unmistakably over large regions of life and experience. In addition to this, any observer must have noticed that while Kant in his formal exposition rigidly confines knowledge to the definition laid down, he constantly employs the idea of cognition or a cognitive value in a sense that far exceeds the limits of the definition. The failure to recognize this fact, the determination to maintain the distinction between knowability and thinkability, characteristic of the first Critique, has extremely important consequences for Kant-criticism as a whole. This very error, for instance, has led Benno Erdmann (there is good reason for supposing) to misdate by almost a decade the important Korff MS. of Kant's lectures on metaphysics. These lectures, derived from various MS. sources and issued in editions of 1821 and 1831 by the Leipzig professor Pölitz, furnish very important evidence for a re-orientation towards Kant's work as a whole and the relation of the three Critiques in particular. A study of the lectures, the substance of which has been rendered accessible by the critical work of Emil Arnoldt and the late Max Heinze, will disclose the necessity for a carefully revised estimate of the exact form of primacy which is to be accorded to the first Critique. As a result of such an examination, undertaken with constant reference to Kant's official statement of his system, the impression is bound to grow that the epistemological significance of the first Critique has been somewhat wrongly emphasized and that the theory of

knowledge there propounded must not be taken as exhausting even Kant's own view of the nature and limits of knowledge. The primacy of the *Critique of Pure Reason* is really logical. The scientific formulation of knowledge furnishes the first step in a dialectic of which the aim is to advance to a formulation of reality as a whole and in all its aspects—ethics, æsthetics, and religion being among these. That such significant realms of conscious reality were excluded from the sphere of knowability in the widest sense is hardly thinkable; and Kant himself gives definite expression to the distinction of a knowledge which is theoretical (the knowledge which he elaborates in the first Critique) and a knowledge which is practical (really presupposed throughout). In the province of æsthetics we find the concept of a universal standard to which the narrow formulation of knowledge in the *Critique of Pure Reason* could accord no epistemological value, since the universality, though genuine, is of a subjective, not an objective character. But this does not prevent Kant conceiving æsthetic values as a legitimate subject of cognition. Again in ethics the universality of moral law, as expressed in the Categorical Imperative, is based upon the same type of consideration as is the universality of space and time in the Transcendental Æsthetic, that is to say, upon the impossibility of deriving the notion from anything prior to itself without destroying it altogether. And we may add that this indefeasibility is exactly the guarantee of reality in the æsthetic universe.

From these various parallelisms it begins to appear that the completest single characterization and the ultimate motive of the Critical Philosophy is neither the definition of knowledge nor the designation of æsthetic or ethical value as such, but the formulation of something presupposed in all of these and of which in each department we find only one and that a partial expression —viz., the general concept of validity. What is now proposed is that knowledge be considered as a special case of this general concept and that whatever characters reveal themselves within the latter be made available for the specific application to the problem of epistemology.

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TRUTH, REALITY, AND RELATION.

IN the following discussion I shall mean by 'truth' judgments held to be true by human thinkers. I am not concerned at present with the question whether there be an absolute system of truth or an absolute knower.

Every judgment involves a twofold relation; first, the relation of the object of the judgment to the mind which holds it to be true; second, the relation of the object of the judgment to some class of entities (I employ the term entity to include all sorts of objects of knowledge). The second relation is the objective condition of the validity of the first relation. For example, if I say 'the desk is here,' this judgment involves: (1) the relation of the desk, as apprehended content of experience, to my mind as apprehending it; and (2) the relation of the desk, as apprehended content, to some system of entities, which latter relation is a condition, independent of my present act of judging, of the desk's being actually in the relation in which I think it is. If it were a hallucinatory desk it would be a mental content taken by me in wrong relations as an element in an objective system. A hallucination is an erroneously placed entity.

The Neo-Realists deny any significance to the first relation in many cases of knowledge, and affirm that the second relation, entirely independent of its being known, is the sufficient condition of many knowable entities. Some of them seem to hold, further, that many entities need not be in any relation whatsoever. They are, thus, ontological pluralists. Now, relation is the fundamental form or category of all knowing. Nothing can exist as a knowable entity out of all relation. The crucial question in regard to the relation of knowing and being is this—can any knowable being be regarded as independent of all relation and yet be in the relation of knowledge? Is there any so-called relation of independence which makes no sort of conceivable difference to the terms related? Does a relation of absolute independence mean anything in science and philosophy? It

seems to me that to state these questions is to call for negative answers, and that the dogma of purely external relations is one that has no meaning in a world of intelligible experience. I propose to examine Mr. Perry's elaborate argument on these points.

Mr. Perry states:[1] 'Independence is not non-relation' (p. 113). 'Independence is the total absence of dependence in the senses enumerated above' (p. 117); namely, relation, whole-part, part-whole, thing-attribute, attribute-thing, causation, reciprocity, implying, being implied (Part II, Meanings of the Term Dependence) 'Independence itself is not a relation but the absence of a certain type of relation.' 'Hence independence itself does not define anything' (p. 117). After careful study of Mr. Perry's paper I have reached the conclusion that the last statement is true of his whole discussion of the meaning of independence in a more literal sense than he intended, and that the neo-realistic theory of independence is incapable of defining anything, except in terms of bare negation. If independence is the total absence of dependence in a specific number of senses, and if relation is a kind of dependence, then independence must be the absence of all relation. (I assume that when a philosopher says that Relation is a kind of dependence he means *all* relation. If he does not mean this he should say what he does mean.) But Mr. Perry says that independence is not non-relation. It is only the absence of a certain type of relation. He has previously asserted *simpliciter* that it is the absence of relation. How can independence be both 'absence of relation' and 'not non-relation'? I think we have here the fallacy of 'equivocation' and the error of 'pseudo-simplicity' of which Mr. Perry so triumphantly convicts idealists. Indeed, in his vague and shifting treatment of independence, relation, and dependence I think he is guilty of the error of 'indefinite potentiality.' Realism, he says, defines dependence as a peculiar kind of relation (p. 115) although relation has already been enumerated as a kind of dependence. And yet there are non-dependent relations (p. 117 *et al.*). Further on we are told that 'Independence is not a

[1] "A Realistic Theory of Independence," in *The New Realism*, pp. 99–150.

question of relation or non-relation, but of the presence or absence in any given case of a certain type of relation. Entities are independent unless they are proved dependent' (p. 122). In short, without any positive definition of independence or relation, and, indeed without a consistent usage of these terms, Perry assumes pluralism. Independence is a relation but not a relation of dependence. Certainly independence is not dependence, but what in heaven's name is it?

Mr. Perry says that being known is not a relation of dependence. This means that 'reality . . . is capable of sustaining the relation which constitutes knowledge, while at the same time sustaining that relation only accidentally' (p. 117). One would like to know just what 'accidentally' means here. Mr. Perry states that realism does not deny that, when a part of reality *a* enters into the knowledge relation, it acquires that relation and is accordingly different by so much, but denies only that this added relation is necessary to *a* as already constituted. Thus when *a* is known, it is *a* itself, as constituted without knowledge, that is independent of that circumstance. The new complex *Known-a* is of course dependent on knowledge as one of its parts. In short, our realist knows that reality as unknown is entirely unaffected by knowledge, and when it becomes known and is thus modified by being known, he knows that *reality-modified-by-knowledge* does not involve any alteration in the original unknown reality. One who asserts that unknown reality is unaffected by being known is on safe footing. He has uttered a solemn platitude that is without further consequence. Certainly what is unknown is unpolluted by knowledge. All that can be positively affirmed about this sacrosanct 'reality' is that, if there be a reality independent of knowledge, then that reality is independent of knowledge. When our realist essays by one jot or tittle to define what this mysterious reality is, he has by a path unrevealed to other men crossed the divide between the known and the unknown. He has no logical or empirical ground for attempting to define the relation of the unknown and thus independent reality to known and thus dependent reality. He cannot tell us what the relation is between a thing as known and

not-known or how one could possibly determine such a relation.

Mr. Perry makes a show of being critical and of avoiding a begging of the question by stating that "simple entities depend on no relation." In fact he simply begs the whole question by taking his own definition of a simple entity to represent the ultimate stuff of a large part of reality.

No objective idealist, so far as I know, denies that physical complexes exist independent of human consciousness. But this assertion has significance only in so far as the nature of our knowledge of physical things and of consciousness in the concrete leads logically to the assertion that the nature of physical things is such that they must exist in the totality of experience independent of their presence immediately in or to a finite consciousness. Every kind of relation is, as matter of rational discourse, cognized relation. The law of gravitation symbolizes a system of connections in the texture of physical actuality. This system must, if the law be true, exist independently of our acts of thinking it. Nevertheless, the law of gravitation does not exist as such in the physical world. Such a reification of concepts is not implied in the truth of science, although the realism of some neo-realists seems to consist in just this reification. Any true system of relations in science must have its empirical basis in the actual physical order, independent of the individual thinker. This is precisely what is meant by a scientific truth. But the texture of relationships which gives to the contents of individual experiences objectivity as elements in the logically articulated complex of reality, is none the less the discovery of thought in its over-individual function. Through this universalizing function of thought the systematic interconnectedness of the real gets known. Relation is at once the fundamental category of knowledge and fundamental to the structure of reality. In this respect knowing and being are identical in character. Thus far Hegel was right in his assertion of the oneness of cognitive thinking and reality. Mind comes to know itself as rational in the very process by which it discovers progressively the organized or systematic wholeness of experience. Experience is of reality, since the latter is mind writ large—mind expanded into a universe; and knowl-

edge, as the counterpart of this, is the self-expansion of mind into harmony with its universe. The common and persistent error of English or 'psychological' idealism and of its realistic critics is the initial assumption that the knowing self is a self-enclosed particular. (For the pathetic form of this fallacy see Mathew Arnold's poem "To Marguerite.")

All objects of genuine knowledge are terms-in-relation. The one is meaningless without the other. Relations must relate something, and terms without relations are like the grin without the cat. Absolutely external relations do not relate anything. Taken literally and logically the dogma of external relations would make knowledge the subjective dream of a solipsistic thinker. Of course there is an indefinite variety of degrees in the internality of relationships. A relation that from one standpoint is internal may be from another standpoint quite external. A man, for example, is not quite the same man before and after becoming a husband or father, although these relations may make no practical difference in him as an art critic, a wearer of neckties, or a golf-player. To argue that, for example, because the fact that I have become a golfer does not affect my taste in neckties or seafood, therefore relations are external is beside the mark. The internality of relations means that all significant relations constitute the individual *relata* members in a more significant whole or individual system. It does not follow that he who maintains the theory that all significant relations are internal to a system of some sort should be able forthwith to produce the absolute system and display the relation between his own necktie and the errors of neo-realism, for example. This sort of argumentation is simply the appeal to ignorance. Equally preposterous is it to say that if truth is an organic whole then we cannot know that anything is true until we know the absolute. The ultimately true may be the whole, which yet in a developing reality leaves free play for error and ignorance, and, on the other hand, sustains the adequacy of our partial knowledge.

A logical 'simple' so-called, no more subsists on its own feet than a cell, an atom, or an electron, has significant reality out of relation to the complex in which it is an element. To argue that,

since by analysis we may arrive at simples that are not further analyzable in a certain scientific or philosophical connection of aims, therefore these simples are absolutely independent pluralistic entities is to forget that the very process and results of analysis have meaning only with reference to the implied synthesis, which is always the logical complement of analysis.

The assertion, that entities exist antecedently to their being known as matter of experience, legitimately means that such existence is logically inferrible from some content of experience. It may also mean that the entities in question may subsequently become actual contents of experience. Reality is not equivalent to experience. It must include logically derived factors which support or complete experience. In general terms, reality is the self-coherent whole which is logically implied in that part of itself which constitutes the immediate content of experience. Reality as systematic totality is the complete fulfilment of what experience means. To say that entities exist entirely independent of the cognitive relation would be to assert that one can mean something relevant and significant without saying what one means. To say *that* a thing exists is to say *what* it is, or it is to say nothing. But to assert in any degree *what* a thing is, is to admit the relation of the thing in question to the process of knowing. The denial of this principle is the assertion that one knows a thing to be what it is known to be absolutely out of relation to its being known.

That entities may exist independently of their being known is true but irrelevant. Until such entities come within the sphere of knowledge they are for science and philosophy non-entities. On the other hand, if our acts of knowing considered as events in our individual life-histories created the objects of knowledge there would be no valid distinction between error and illusion on the one hand, and truth and reality on the other hand. But the very independence that an object of knowledge may have of the intellectual contingencies of finite minds is a rationally valid proposition which can obtain only in a universe that is a systematic or organized totality of knowable objects and knowing subjects in functional interrelation. The knower is, *qua* knower,

over-individual and rational. In this over-individuality of mind consists the ground of its harmony with its objects of knowledge. Truth is the over-individual awareness of the interconnectedness of the elements of reality. Minds transcend their supposed self-enclosed particularity in thus apprehending the objective interrelatedness of the real. Truth involves a relation of two-sided dependence. Mind, as knowing, is dependent for the truth of its judgments on the actual interrelationships of things; these interrelationships are precisely the characteristics of reality which imply mind, since thereby they become objects of intelligent awareness and reaction. Mind, as knower, functions just by virtue of being a reflective centre of actual relationships. Truth is thus a function of two interdependent factors—mind, for which relations are true, and the world which is the actual system of related elements progressively apprehended by mind. Truth is mind organizing itself by grasping the interrelationships of things. Truth is thus a principal form of the process of self-realization by self-expansion into a more universal whole which is the very meaning of mind. From the converse standpoint, truth is the coming to systematic awareness in individual centres of the objective interrelationships of the real. Truth's goal is the organic whole which transcends the particular thinker by uniting him with the living system of reality. Knowledge, the awareness of reality as consisting of things in relation, is a function of the whole operating in individuated centres. By virtue of this function, these centres transcend their existential particularity. The mental or logical subsistence of truth is the symbolic expression of the contexture of reality. In knowing, the mind is in active relation with those elements of experience which are not themselves cases of awareness but objects thereof.

A raw unmediated content of experience is neither true nor real. Knowledge of reality is to be found through the development of the system of relations, by which seemingly isolated contents are seen to be elements in an objective totality. The category of relation is fundamental. *Thing*, *substance*, *cause*, *quality*, and so forth, are modes of relation. Nothing can exist in a knowable universe out of relation; and no relation has mean-

ing and validity apart from the indiscerptible unity-in-duality of thought and its objects. Truth is the integrated awareness of the systematic togetherness of things.

The neo-realist asserts that the truths of logic and mathematics must subsist independently of any thinker. Otherwise they must be created by every one in thinking them and destroyed when one does not think them. And, of course, since there is no whole of truth and no universal thinker, these truths are an aggregate of subsisting entities (but without means of subsistence!). His argument is an imperfect disjunction. He simply omits the third and most plausible alternative. The finite mind in thinking truly *discovers* the truths contained in its judgments. It does not make them out of whole cloth. In thus discovering the truths of reason or a priori truths, the activity of the finite mind is determined by its conformity to the structural principles of the universal or overindividual reason. These truths are the formal and universal conditions of rational thinking. If one wills to think truly one thereby accepts the determination of one's individual thinking by these principles. To deny them is to deny the rational will in the same instant that one affirms it by setting out to think at all. With Mr. Royce, one may say that these truths express the absolute nature of the will as rational. This rational will must be the systematic whole of which our logical and mathematical truths are partial expressions. It is the cosmical will-reason with which our finite intelligences are in harmony in so far as we think truly. In place of a pluralistic aggregate of logical but non-mental subsistences or logical atoms, which are an aggregate for no thinker since no finite thinker knows the aggregate, and, consequently many of which truths are true for no whole whereas truth for us men consists in actual judgments, I would put the hypothesis of a Universal Systematic Intelligence or World-Reason whose structure is embodied in the actual world of experience and progressively repeated in the rational activities of finite intelligences. The progressive discovery of a harmony between the determinations of logical thinking in finite minds and the structure of the empirical world-order justifies the assumption that the two orders

have a common root. The relations between non-mental actualities in the empirical process of things are found to be in partial and ever-growing accord with the structural character of thought.

A good deal of confusion still prevails in regard to the relation of particular facts of experience to percipients. Admitting that there is much justice in Mr. Montague's charge[1] that many idealists are guilty of a fallacy in passing from the use of the words 'idea' and 'experience' (which denote primarily processes of consciousness) as denoting the objects of consciousness, to the assumption that all such objects must be conscious processes, the controversy is not thereby settled in favor of the view that perceived objects exist just as they are perceived out of all relation to percipients. It would be superfluous to repeat here the well-worn arguments from the variableness of perception, from illusions, and so forth. Mr. Bertrand Russell agrees that 'sense data' are not independent of percipients.[2] Since, then, physical things are inferred from the character of the sensory data the former are not independent of the total system or organic complex of which experience is the actual living centre. There must be continuity of sensory data with non-experienced reality, and the latter is a logical structure whose function is to fill out and complete the significance of experienced content. No satisfactory answer can be found to the question, regarding the relation of facts which are not conscious process to the knowledge of these facts, unless one recognizes that non-conscious facts and the knowledge thereof are reciprocally conditioning elements in an organized totality for which the least misleading name is the system of actual and possible experience. Physical facts, then, exist independently of the existence of particular finite minds, but not independent of the system of experience in which physical fact and finite mind are integral and interrelated elements.

Starting from sensory data we construct, for various purposes, (and the construction varies with the purpose) conventional

[1] *The New Realism*, pp. 256–262.

[2] B. Russell, *The Problems of Philosophy*,

objects or 'facts.' These are useful supplementations or enlargements of the data, not ontological substitutes therefor. The only world with which we are concerned is the world of experienced and experienceable fact shot through by the general structural relations which constitute its intelligibility. In this world, independent existence means now, that is, without reference to time, public or common perceivableness, and, with reference to time, continuous perceivableness. A 'real' fact is a more or less conventionalized group of sense qualities that are perceived under normal conditions by normal percipients. Take the hackneyed illustration of the straight stick which appears bent in the water. We say that the 'real' stick is straight and that it 'appears' bent. In truth, the visual stick as seen in the water is really bent. But practically the most important aspects of the stick are the tactual stick which continues to feel straight in the water in association with the visual stick as seen out of water. So for practical and social purposes we treat the latter as the real stick and explain the bentness as due to optical aberrations of water in comparison with air as a standard medium. Theoretically we might regard water as the standard medium and explain the visual straightness in air and the tactual straightness as aberrations, but, practically such a procedure would cause great inconvenience. The 'real' object of common sense is a conventionalized grouping of sense-qualities with reference to coöperative action and thought. The objective and independent fact is such only in a relative and special sense determined by social experience and aims. From the standpoint of philosophical totality of view there can be no absolutely independent facts out of all relation to other facts or themselves devoid of relational structure. The thing is a thing only in the sense of being a grouping of qualities known and operative in certain specific relations in the total system of reality.

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HOCKING'S PHILOSOPHY OF RELIGION: AN EMPIRICAL DEVELOPMENT OF ABSOLUTISM.

IN spite of the many and generally appreciative notices of Professor W. E. Hocking's recently published volume[1] which have appeared, there must be many readers of the book itself who will regret the fact that certain of its doctrines and arguments, which are of the very greatest philosophical interest, have, for the most part, been passed over by the reviewers with scarcely a word of comment. It may not be altogether inappropriate, therefore, for one whose own philosophical creed is far from identical with that of the author under consideration to suggest special examination of certain features of the book, which, as it seems to him, ought to secure for it a permanent place in the history of modern philosophy.

The historical significance of the philosophy before us can be best indicated, perhaps, by calling attention to its relation to the elemental types of idealism, meaning by that term for the present the interpretation of physical reality as being essentially idea. These elemental forms of idealism are three: the mystical, the logical, and the psychological. According to mystical idealism, the things of the physical world are not realities but mere ideas, illusory appearances in the finite mind. This dogma is due to the suggestion which comes from the more extreme mystical experiences, in which, because of the concentration of attention upon the religious object, the physical environment lapses from consciousness, so that the religious object alone seems to be real. The earliest idealists of India were probably of this type, and in the history of European thought we find it best illustrated, perhaps, in Meister Eckhart. In logical idealism, the physical object is declared to be, in so far as it is real, identical with the logical idea, the abstract universal. This dogma is due to the suggestion which comes from the fact that in judgment the object (subject-matter) is represented by a logical idea (predicate).

[1] *The Meaning of God in Human Experience*, New Haven, 1912.

The functional equivalence of subject and predicate for the purposes underlying the judgment is taken as an ontological identity of the thing judged about and the abstract idea used to represent it; and so the reality of the thing is assumed to be the absolute idea, *i. e.*, the absolutely satisfactory idea. Of this logical idealism Plato is our classical representative. The third elemental type of idealism, the psychological, is due to a suggestion which easily occurs in connection with the beginning of psychological study. The objects of illusory and hallucinatory experience and of erroneous thought are commonly shown by further experience to have been unreal. But they did have an existence of some sort; they were the temporary objects of the individual subject because of the conscious activity of that subject. And so attention is called to the relation of the object to the subject in conjunction with the fact of the dependence of these particular unreal objects upon the subject. But attention is also likely to be called—in the study of psychology, if not otherwise—to the similarity between the relation of illusory objects and that of all experienced objects to the same subject. Hence it is suggested that all objects are alike dependent for their existence upon their being experienced or thought of by some subject. The result is the dogma of psychological idealism, typically represented by Berkeley. Of these three elemental types of idealism, the logical is objective, but abstract; the psychological is concrete, but subjective; while the mystical may be said to have been not only subjective, but, in a sense, abstract; for it the physical is not real, even in the relation in which it appears.

Now it is the distinctive characteristic of Hocking's idealism that what it attempts is virtually a synthesis of all three elemental forms of idealism, the mystical, the logical, and the psychological. Up to the present, modern idealism in its most typical form has been a combination of logical with psychological idealism. The physical object is regarded as the combination of the universal or logical idea with the particular or psychological idea. Of this logical-psychological idealism the most characteristic variety is the monistic type, represented by Hegel. It is absolute idealism in its modern, as opposed to the ancient,

Platonic form. It views ultimate reality as the Absolute Idea, not the abstract but the Concrete Universal, the unity of all reality and rational thought in one completely experienced, completely rational thought-system. To this logical-psychological idealism in its Hegelian form Hocking would add the missing element, viz., the idealism of the mystic. Thus he would bring to absolute idealism the much-needed support of verification, real or supposed, in the mystical experience, and at the same time would teach the idealist to worship his "Absolute."

But Professor Hocking does not leave this interesting philosophical system without further argument in its support. When the different steps in the supporting train of thought are viewed together they are seen to constitute an ingenious dialectic, leading from ordinary naturalism to a "realism of the Absolute," essentially identical with absolute idealism, especially as concerns its doctrine of the physical object. The dialectic is as follows: The original thesis is natrual realism, to which an antithesis is found in subjective idealism. These are synthesized in the idea of awareness, more or less immediate, of some other mind. This is then taken as the thesis of a new dialectical movement. The antithesis is found in the fact that we are empirical knowers, and the synthesis in the idea of an Absolute Knower, creating the finite self and its object in one and the same act of knowledge. This involves a realistic view of the religious object, the Absolute, but an idealistic interpretation of the physical world.

Now concerning this dialectic it is to be said that, granting the original thesis and antithesis, all the rest necessarily follows, the second antithetical consideration, that we are all empirical knowers, being evident beyond dispute. If it be true, as natural realism maintains, that in sense-perception we each have immediate awareness of one and the same single object, the qualities of which, primary and secondary, do not depend for their existence upon our individual experiencing of them; and if it be also true, as subjective idealism contends, that we each of us construct the object in perceiving it, it necessarily follows that different finite subjects have mutually penetrating experiences.

A perceives a content of B's mind; through his own thought-activity he constructs an experienced object, and this identical object B also constructs in perceiving it. But this applies only in so far as one is active in the process of perception; if one were a mere passive recipient of the contents of perception, the argument would not hold; sense-materials given *ab extra* to separate individual subjects would not be one and the same object immediately present in different minds. And yet this is just what we find to be the case; we *are* empirical knowers; the materials of perception are given to us and passively received by us. How then can the thesis (awareness of other mind in the immediate awareness of its object) and the antithesis (receptivity in perception) both be true? This can only be if the apparent passivity of empirical knowledge be interpreted as the activity of an absolute mind, who is also active in the thought-activity of each and every mind of whose objects I am immediately conscious. On this view, then, the other mind of which I am conscious in my knowledge of the physical world, is not the mind of my finite neighbor, but the Absolute Mind, the All-Knower and All-Creator.

If now our interpretation of Hocking's thought at this point is correct, we not only can, but, as has already been said, we must agree with him in his conclusion, provided we have already admitted the original thesis and antithesis. But are we intellectually justified in granting him this initial advantage? On the contrary, we would claim that, as a matter of fact, both the thesis and the antithesis, both natural realism and subjective idealism, are not simply inadequate and in need of supplementation in the course of the ensuing dialectic; they are open to more serious objection. It is often supposed that one must accept *either* natural realism *or* subjective idealism, but that to accept the one is to reject the other. Hocking, as we have seen, accepts them both, and out of the apparent contradiction between them develops his dialectic. In our opinion, however, of these supposed alternatives we should accept neither. There is a third possibility, by means of which we may avoid the natural error of the one without falling into the sophisticated absurdity of the other.

It is not our primary concern here to expound this other view, but rather to discuss that of the author before us; and yet, for the sake of clearness and to avoid dogmatism at this point, some indication of the nature of our own position must be offered, as well as some reference to the untenable features of natural realism and subjective idealism. Natural realism is, in its doctrine of secondary qualities, a mere dogma, untenable on critical grounds. Not only is it true that for no legitimate human purpose, practical or theoretical, is it necessary to assume the existence of colors, sounds, and other sense-qualities when they are not being sensed: the facts of illusion and other variations in sense-qualities due to subjective causes make the doctrine of the independent existence of all secondary qualities so absurd as to be practically inconceivable, while to contend that only some of these qualities exist independently is to take refuge in arbitrary assertion in order to hide the break-down of a definite theory. Subjective idealism, on the other hand, falls into the opposite error of supposing that because the mind is active in perception it must be supposed to construct that which is perceived, in the very act of perceiving it—a view often supported by the fallacious argument from the "egocentric predicament." In distinction from both of these extreme views, another theory may be suggested. For practical and scientific purposes we must suppose as a minimum of independent physical reality a definite quantity of physical energy existing in certain relations, and changing in the ways described in the laws of the physical sciences. These primary qualities and relations are not only the minimum that may be insisted upon as independently real, if we are to think of the universe as an orderly system; they are also the maximum that must be insisted upon. Let us, then, suppose that the secondary or sense-qualities are products of sense-activity, a creative psychical activity which has been inherited from the animal ancestors of the race as an exceedingly useful variation, enabling the living organism to adjust itself to its physical environment. These sense-qualities would be data for thought, indeed, but products of sense. A little reflection will show that this view can be so developed as to provide a

theory of physical reality and of perception free from the objectionable features of both natural realism and subjective idealism, and retaining the valid elements of each. This means, however, that the whole dialectical argument for absolute idealism founded upon the contradiction between these two views falls to the ground.

Our author has not, however, left his position without further support. In fact, each successive thesis is supported by an appeal to intuition and the cognitive value of feeling. The first thesis, natural realism with its doctrine of the independent existence of secondary qualities, is supported by citing with approval Fechner's intuitive certainty that this "day-view" of the world *must* be the true one, rather than the "night-view," according to which it would be, in its independent reality, destitute of all the colors, sounds, and other sense-qualities perceived by man. The first synthesis, or second thesis, the doctrine of the immediate awareness of other mind, is supported by reference to the analogous fact of the increased measure of intuitive understanding of other persons possible in and through sympathy and love. The final synthesis, that "Realism of the Absolute—not far removed from Absolute Idealism," is supported by appeal to the mystical consciousness. The certitude of religious feeling is regarded as the consummation of that intuitive knowledge of the Absolute which is the possession of every human experiencing subject.

We are here at the point of transition from Hocking's idealism to his realism. When we come to his ultimate metaphysics we find him an idealist with reference to the physical object and a realist with reference to the religious Object. Beginning as a realist, and claiming to find the physical world unreal, he takes refuge in the reality of God. Speaking ultimately, "Because the world is not, God is." But this appeal to intuition as a support for his mystical absolute idealism is not, in our opinion, so important as is the use he makes of it in finding a foundation for religious realism. The present writer would agree that, upon the basis of religious experience *at its best*, the assertion that the object of religious dependence exists, is justified; but he would

couple this assertion of the existence of the religious Object with the claim, upon an analogous basis, that physical objects exist. To say, "Because the world is, God is," may be admitted to be, as our author would claim, to dogmatize overmuch and to offer for religious belief an inadequate defense; but to say, as he himself does, "Because the world is not, God is," must be regarded as a virtual, though unintentional, betrayal of religion to its enemies. Even when the "is not" is interpreted as meaning "is dependent upon consciousness for its existence," it still involves the giving of an unsound reason for a sound position. It preserves the fallacious dogma of subjective idealism. Physical realism and religious realism belong together; for reasons similar to those we have for affirming the existence of physical objects, a person of adequate religious experience is entitled, we would contend, to affirm the existence of God. The idealist who says, "God is real, and the world is mere idea," is no more rational than the materialist, who says, "The world is real, and God is a mere idea." God and the world are both real. If it must be maintained that God created the world, this creation must be conceived realistically, not idealistically. We are to believe that God is, neither because we believe that the world is not, nor because we believe that it is, primarily. The world is, and God is; both statements hold for similar good and sufficient empirical reasons.

Hocking's religious realism can be dissociated, however—at least in its innermost essence—from his physical idealism; and it is in connection with this religious realism, we take it, that he has made his most permanent and important contribution to the philosophy of religion. At any rate, this realistic feature of the philosophy before us deserves our careful examination. It is to be taken as one of many expressions of a rapidly growing and deeply significant movement within contemporary philosophy—the new intuitionism, as we may call it. Unlike the older intuitionism, which was mainly interested in "rational intuition," this newer movement is an empirical intuitionism; it consists in the claim that in normal human experience there is an immediate awareness of independently existing objects, qualities,

relations, and values. The new realism, with its somewhat over-zealous insistence upon the independent existence of primary and secondary qualities and relations, and that in large measure as immediately experienced; the combination of empirical intuitionism and neo-vitalism so brilliantly expounded by Bergson; the new ethical intuitionism, with its doctrine of the intuitive appreciation, in experience, of the good which is the true end of moral action—these together with what may be called the new mysticism, or, more broadly, the new realism in religion, are probably the most important expressions of this vitalizing current in present-day philosophy.

Of the application of this new intuitionistic or realistic way of thinking in the field of religion, certainly no more adequate or striking illustration is to be found in the literature of the day than Professor Hocking's exposition, in the pages before us, of "the meaning of God in human experience." It would almost seem as if he had taken his cue from such intimate social experiences as human sympathy and love: the quickening of appreciation and intuitive understanding in and through the heightening of feeling calls attention to the cognitive value of feeling in general. "All positive feeling . . . reaches its terminus in *knowledge.* All feeling means to install some experience which is essentially cognitive: it is idea-apart-from-its-object tending to become idea-in-presence-of-its-object, which is 'cognizance,' or experiential knowledge." Hence the endorsement of Fechner's appeal to feeling for the support of natural realism, and the evident willingness to take as nearly as possible at face-value the characteristic affirmations of the religious mystic.

Now this recourse to intuition and feeling is doubtless proving itself a fructifying influence in contemporary thought; but there is constant danger of its leading to unduly dogmatic affirmations and incompletely scientific modes of thought. There is a welcome awaiting the new intuitionism, if only it shows that it can be sufficiently critical. Like its methodological opposite, pragmatism, intuitionism may easily be so uncritical as to fall short of scientific procedure. There is no absolute chasm, such as Bergson seems to think exists, between intuition and analysis.

What he regards as intuitive insight is often simply the occurrence of an hypothesis to the mind after the discovery of the data in the light of which it is sufficiently verified. As the scientifically-minded find the end and consummation of their working hypotheses in the intuitive certitude of the verifying experience—not a mere satisfaction of the passing purpose, but an illumination of the knowing mind—so also do the scientifically-minded recognize the universal propriety and in general the theoretical necessity of further practical tests of our intuitive certainties. Intuitionism and pragmatism are insufficiently critical so long as they fall short of satisfying the canons of scientific verification, and each becomes more critical and scientific in proportion as it is supplemented by the other. Nor will a merely "negative pragmatism," which Professor Hocking endorses, render intuitionism adequately critical. On the contrary, not even negative pragmatism is valid, unless some sort of positive pragmatism is also true. Of course we cannot be critical and say, "Whatever works, is true;" but neither are we warranted in saying, "That which does not work, is not true," unless it is also true that there is some positive relation between working and truth, some kind of working which *is* a criterion of truth. When pragmatism is critical and scientific, what it really means is that truth is representation of reality by idea, of subject by predicate, sufficient (positively and negatively) for whatever purposes ought to be considered in making the judgment, the purpose of the scientist being included. Or, in other words, truth is representation of reality sufficient for all purposes—practically speaking, of course. On the other hand, from this point of view intuitive certainty with reference to any judgment is the feeling that the judgment represents the reality in a way not needing to be changed, save by way of supplementation, *i. e.*, not needing to be cancelled, for any legitimate purpose whatsoever. In other words, intuitive certainty is the feeling that the representation of reality in question will work for each and every legitimate, pertinent purpose. A critical and scientific intuitive certainty is such a feeling, arrived at in the way prescribed by the principles of induction; in other words, it is the certainty of scientific verification. All

of which amounts to saying that a scientific critical intuitionism and a scientific critical pragmatism are one and the same methodology.

Let us now examine Hocking's intuitionism, as seen in the support of his provisional realism in the interpretation of nature and his absolute realism in religion.

With respect to the natural realism, the procedure adopted is peculiar. At first, as with Fechner, intuitive awareness of an independent Nature, with all its secondary as well as primary qualities, is accepted as valid. Then, because of certain contradictions which appear in this view, the whole idea of an independent Nature is summarily rejected. It is assumed throughout that all elements of Nature-as-perceived must stand or fall together, and upon the dialectical imagination is imposed the burden of conceiving how this total world of Nature-as-perceived can at the same be and not be independently real. As against this, in correction of the original intuition of natural realism, we would again suggest the critical realism which, by explaining some of the qualities of the physical object as independently real and others as dependent upon its being sensed, would obviate self-contradiction and the necessity of the dialectic of absolute idealism.

Our examination of the intuitional support adduced for religious realism must needs be more extended. Our author prepares for this appeal to intuition by setting forth a revised version of the ancient ontological argument. All other theistic arguments he rejects as futile; in idealistic fashion he declares: "It is *some leap from idea to reality* that constitutes the essential movement of the mind to God. . . . The ontological argument is the only proof of God." Inasmuch as the author regards this point as of crucial importance, it will be well for us to compare his version of the argument with its most important historic forms. It is important to recall that the ontological argument has always involved a dilemma. It might start with the idea of a perfect being, which was easily identified with God, but which could not be proved to be really existent, save on the assumption of mediæval Platonism that the universal, which, to us, is abstract, is

the true reality. On the other hand, instead of the idea of a perfect being, the idea of a being "a greater than which does not exist" might be taken as the starting-point. In this case it was easily shown that such a being really existed, but it could not be readily shown that this being was what religion means by God. Strictly considered, the one argument, that a perfect being is a being, and so exists, was mere dogma, the most glaring possible example of begging the question; the other, that the greatest existing being exists, was the most trifling of propositions, a mere truism.

The former method—reasoning from the abstract universal to real existence—was the course pursued by Anselm. In Descartes we find it radically altered by being combined with the causal argument—a telling tribute to the rising prestige of the empirical procedure. Nowadays the common philosophical attitude toward this argument is well represented by Simmel, who defines God as personal and of absolutely ideal character, but who then has to admit, "We know *what* God is, but not *that* he is;" or by the reviewer of a recent exposition, from a liberal point of view, of "the Christian doctrine of God," who admits that this picture of God is one to which we feel no moral repugnance, but who hastens to add that one most important attribute has been omitted from the sketch, viz., the attribute of non-existence.

The other course, which may be thought of as a modified ontological argument, starting from the idea of Absolute Reality and assuming its existence forthwith, trusting to philosophical considerations or mystical intuition to lead to its identification with God, has had a more honorable history. It is involved in Spinoza's philosophy of substance and in Leibnitz's idea of the highest monad, but it is Hegel whom we must regard as its classical exponent. Starting with the reality of concrete experience, he finds in the concept of Being the most fundamental category involved in its interpretation. Then, finally, claiming to have shown by means of his dialectical logic that experienced Being must be interpreted ultimately as Absolute Spirit (and so, as God), he is able to turn about and say that whatever else this Absolute may be, it at least *is*. Instead of Anselm's mere

universal in abstraction from all particularity, and instead of the abstract particulars of Anselm's nominalist critics, Hegel claims that Reality is the "Concrete Universal," the Absolute Idea which includes all the particularity of immediate experience, and from which, of course, concrete existence can be readily deduced.

Hocking's ontological argument is essentially Hegelian as compared with the Anselmic, and yet it goes far beyond the thought of Hegel. Not only is there a large measure of originality in the dialectic, which proceeds from totality to spiritual unity, from reality as a whole, or the 'whole-idea,' to other mind as Absolute Creative Spirit; what is more important for our present purpose is the way in which the good work of Hegel is carried further in the transferring of the ontological argument from its former purely apriori to its true empirical basis. God must be discovered in experience, he claims. "No proof of God can be deductive. . . . The ontological argument in its true form is a report of experience." The procedure is briefly as follows: There are some ideas which we never could have had without having first had an experience of the realities of which they are the ideas. For example, we could never have had any idea of the world, or of self, or of other mind, if we had never had an experience in which there was an intuitive awareness, a feeling of being in the presence of the world as a whole, or an immediate awareness of the presence of the self as a whole in our conscious states, or of the presence of other mind as a whole in our experience of not being alone in knowing the world, our intuitive awareness that our fragmentary experiences of nature are phases of one and the same real world; in other words, the idea of a social experience would not be possible unless such an experience were actual. Indeed, we could never have had the idea of Reality as a Whole, if we had not first had an intuitive awareness or feeling of the presence of Reality as a Whole. In fact this is an experience prior to the distinct consciousness of the world, or of self, or of other mind, as such; the most primitive intuition of the infant consciousness is this feeling of the presence of Reality as a Whole. Ultimately—so it is claimed—we know that the world and self and other mind are all real, because we know that the

Whole is real; and we know this, because we have experienced the Whole, we have felt its presence.

Now this most primitive and fundamental of all intuitions, the intuition of the Whole, is the essential thing, it is claimed, in the religious experience of the mystic. The religious mystic is the individual whose specialty is the return from consciousness of the parts to consciousness of the Whole. This consciousness is the essence of worship, and it is for this that the mystic seeks solitude and detachment from all particular things and persons. From the idea of the religious object, then, from the *idea* of Absolute Reality, Reality as a Whole, one can affirm its *existence*, because the idea itself is possible only through an experience which is the beginning and the true end of all human experience, the experience of the presence of Reality as a Whole. Thus it comes that, whether or not the mystic knows anything else about God, he knows this much at least with absolute certainty, viz., that the religious Object exists, and he knows this, it is claimed, because he has experienced the presence of that religious Object; he has felt the presence of Absolute Reality, the Whole.

The same general argument is also stated in a form that reminds one more distinctly of Hegel and Bradley. We criticize our ideas by means of others which we regard as more adequate. This must mean that there are always ideas which we regard as ultimate and beyond criticism. Such is the idea of the Whole. We criticize partial views by means of an idea of the Whole, and beyond this whole-view there is nothing by means of which we may criticize it. It must therefore be regarded as the reality; that which cannot be criticized must be so; and the Whole is therefore that which undoubtedly exists. What the content of this Whole is, is determined, as we have seen, by the dialectic.

Here the thought is moving again along the idealistic line. The dialectical argument for absolute idealism we have already examined, but we must now give attention to the argument for idealism drawn from the mystical experience. Fortunately for the idealist—or is it unfortunately?—several of the most characteristic ideas—errors, as it seems to us—of idealism seem to be confirmed in the characteristic experience of the mystic. Hock-

ing recognizes some of the suggestions of the mystical experience as erroneous. "The mystic," he says, "in reporting what he has experienced, has attributed to the objects of his experience some qualities which belong rather to his own inner state." "Is it not more probable," he asks, "that those words, 'one, immediate, ineffable,' which describe the Reality of the negative metaphysics, are in their first intention descriptions of the mystic's inner experience? May it not be that those negations which have passed for metaphysical definitions are in their original meaning rather confessions of mental obstruction and difficulty than assertions about the Absolute? There is a wide difference between saying, 'My experience of Reality is ineffable' (passing my present powers of expression), and saying, 'Reality is ineffable' (without predicates)." This is good criticism as far as it goes, but its principle ought to be applied further. There is equal justification for the view that the relative unreality or merely ideal existence of the physical and the finite, and the absolute perfection and timelessness and practically undifferentiated divinity of the Whole, together with other features of absolute idealism which seem to be confirmed by the mystical experience, are mistaken applications to the object of what is simply a transient modification of the subject. It cannot be maintained that the author's attitude toward religious mysticism is other than highly critical; and yet he fails to rule out these characteristic suggestions of extreme mysticism, doubtless because of their agreement with the doctrines of absolute idealism.

But even apart from the objections to be urged against the way in which mysticism is appealed to in support of absolute idealism, there is room for a still more fundamental criticism with regard to the estimate placed upon mysticism in this philosophy of religion. Religious experience is identified too exclusively with the mystical phase of that experience. It is recognized that adoration or worship is not the whole of life, that the necessities of practical life require that one should turn from contemplation of the Whole to particular adjustments to the parts, and even that the practical life is greatly enriched as a result of the mystical experience; but it ought to be more fully recognized that religious

adjustment has place in this practical phase of life as truly as in the life of contemplation. Hocking calls attention to the normal alternation between work and worship, but he gives the impression that the mere will to worship is sufficient by itself as a normative principle to control this alternation. This, however, is manifestly a one-sided principle; it will produce and regulate only the movement from work to worship. For the movement from worship to work, instinct and the natural necessities of life have not always proved a sufficient guide. The history of mysticism, especially in its quietistic and ascetic manifestations, shows the necessity of the will to worship being explicitly offset by the will to do a worthy work.

Indeed our contention would be that, so far from the distinctly mystical experience being the only phase of religious experience, it is not even its primary phase. Religion is primarily an adjustment to the religious Object for practical ends. Religious experience is primarily the practical experience immediately resulting from this adjustment. The mystical contemplation of the religious Object to which a practical adjustment has been successfully made is itself a religious experience, but it is, originally, at least, a secondary experience, as compared with that of practical religion. To be sure, mystical religion may come to be more highly regarded than practical religion, and that with justice, especially in the case of the less rational religions. Moreover, without some measure of mystical contemplation, religion will never come to have any great practical value. But practical religion is bound to develop in rationality, and thereby of necessity in morality: and it is this moral, practical religion which is of greatest value, we would maintain, for religious knowledge. We know what the religious object is, by observing what it does when successful adjustment is made to it for a moral and rational end. The results of moral, practical religion can always endure the test of mystical contemplation; but, as we have seen, what is suggested in the more extreme manifestations of mysticism will not always stand the test of criticism from the non-mystical, but practical and moral point of view.

We are now ready to indicate our position with reference to

Hocking's empirical-ontological argument. In brief our judgment is this, that it is the empirical, rather than the so-called ontological element that is of the most vital importance. Instead of saying, as Hocking does, that the ontological argument is the only proof of the existence of God, we would maintain that the only sufficient and satisfactory proof of the existence of God is the empirical argument, the argument from religious experience. Nevertheless the ontological argument, or what remains of it after its many transmutations, still has the first and the final word in theistic argument. To show this, we must indicate, if only in barest outline, what we consider a valid argument for the existence of God. This will involve a consideration of the classical theistic arguments.

The classical arguments for the existence of God are the moral, the cosmological or ætiological, the teleological and the ontological. To these has been added the epistemological, or idealistic. This last is to the effect that physical objects are mere ideas, capable of existing, therefore, only in some mind; but inasmuch as physical objects existed before there were any human minds, they must have existed in some superhuman or divine mind. This argument, in view of the untenability of idealism, is absolutely worthless. In its place we would take as our starting point a realistic position similar to the first stage of the ontological argument as employed by Hocking. We are in immediate, experiential, and therefore cognitive, relations with Absolute Reality. Moreover, we are intuitively conscious that this Reality, in the presence of which we are, is *one* reality, a Whole. That is, we know that Reality as a Whole exists, although we do not know at the beginning what it is; we do not know that it is Absolute Mind.

The moral argument is commonly associated with the Kantian point of view, but it is also the essentially pragmatic argument. It consists in the postulate of the reality of God, on the ground that his existence, or belief in his existence, is morally necessary; not simply, as Kant seems to have felt, to guarantee immortality and the adequate happiness of the virtuous in a future life, but rather for the gaining of that special experience of deliverance,

of liberation, of moral uplift through religious dependence, which in the language of moral religion itself is called "salvation." It is thus the feeling that there ought to be a God, transformed by the "will to believe" into the assertion that there must be and is a God. But to be convinced of the moral need of God is not to escape religious agnosticism. Belief based upon the mere will to believe, even when that belief is thoroughly moral, does not amount to knowledge. It is still an unverified hypothesis. It is only when the God whom man needs for the realization of his highest possibilities is experienced, found "revealed," in an experience which can be called "salvation," that man *knows* "that God is, and that he is the rewarder of them that diligently seek him." Thus the moral or pragmatic argument needs to be supplemented by the empirical argument, the argument from practical (and not merely mystical) religious experience, before it is adequate as a proof of the existence of God.

The ætiological argument to the effect that we must posit an adequate first cause of the universe, and that this adequate first cause is God, is commonly supposed to have been left by Kant dilapidated beyond repair. Of his two main criticisms, that the argument involves an unjustifiable use of the category of causality beyond all possible human experience, and that in any case we could not know that the first cause so inferred was what we mean by God, it is the second only, in our opinion, that should be regarded as valid. When we have subjected the ambiguous conception of "possible experience" to critical examination, and have overcome the Kantian epistemological dualism and consequent agnosticism, we will see—with Renouvier, for example—that the affirmation of an adequate first creative cause is at once legitimate and necessary, any alternative involving the self-contradictory notion of an actual infinite number. But the other objection to this argument remains. We are still, so far as religion is concerned, upon the ground of agnosticism. All that this argument proves is that there must be *some* adequate creative first cause of the universe. What further that first cause is, and whether or not it is the God of religious faith, are questions which the argument leaves unanswered. There is an

ætiological argument, however, which does reach to the God of religion as the ultimate cause. This is again the argument from religious experience. When man learns from his practical religious experience that there is a Factor in Absolute Reality upon which he can depend to produce, in response to the proper religious adjustment, a certain needed religious experience—not an emotional experience, except incidentally, but an uplift toward the ideal, especially the moral ideal—he has come to know God as the cause of the essential thing in his religious experience, that is, in the language of religion, as the "Author" of his "salvation." Whether this creative Cause of man's "salvation" is to be identified with the creative First Cause of the universe, is a question for theological and metaphysical theory; but in ordinary mystical religion there is an anticipatory intuition —not to be taken uncritically—that this will prove to be the truth.

The teleological argument, by means of which it was supposed that one might prove the existence of God as the designer of the adaptations occurring in nature, has suffered much at the hands of its critics. In the first place, we have Kant, with his objection, already noted, to the trans-empirical application of the causal category, and his remark that at the most the teleological argument would prove only a great Architect, and not God. Then come Darwin and his followers, showing, through their theories of natural and germinal selection, how unnecessary is the conception of this external Architect with his detailed plan according to which all adaptations are predetermined. And yet, on the other hand, we have Driesch's strongly supported theory of a non-mechanical factor in life-processes, directing morphogenesis (as "entelechy"), and the discharge of function (as the "psychoid"), and Bergson's more than plausible doctrine of an *élan vital* underlying the facts of creative evolution and giving rise to an increasingly elaborate and dangerous complication of living forms. Rejecting as before Kant's rather dogmatic agnosticism, we are entitled to assert, we would hold, not design in any sense involving complete predetermination, but an adequate, and therefore non-mechanical, creative cause fundamental

to those factors in evolution which operate prior to natural and even germinal selection. It must be maintained, however, that this argument does not conduct us out of religious agnosticism. We do not, apart from further light, know that this adequate creative cause of evolution is the God of religion. Nevertheless there is a teleological argument which does attain to proof of the existence of the God of religion. This is again the empirical argument, the argument from the practical religious experience of spiritual "salvation." Through a critical and sufficiently sympathetic study of the history of practical religious experience there arises an understanding of what it is that the religious Object—defined as that Factor in human experience which produces, on occasion of man's continued right religious adjustment, a definite and qualitatively predictable result—really can be depended upon to produce. This is found to be a process of what, in the now somewhat archaic language of religion, is called "sanctification," that is, the production of a growing conformity of the individual to the image of the ideal or "divine" man. As this Factor or Entelechy, guiding the spiritual development of those rightly adjusted thereto, the God of practical religious experience is known to exist. Whether the creative Cause of this spiritual evolution of the religious man is also the creative cause of biological evolution, is a question to be dealt with further by theological and metaphysical theory: but here again mystical religion intuitively surmises that this is indeed the case.

Finally, we come once more to the ontological argument. Here again, as Hocking has seen, it is in connection with the empirical argument that it has its true place. It is not from the mere idea of God that we can prove the existence of God, but from a consciousness of God which is at the same time an experience of God. But it should be recognized that this experience of God must be a *practical* religious experience. The mystic does not really know on sufficiently critical grounds that the object of his mystical contemplation is a really existent divine Being, unless back of the mystical experience there has been the practical religious experience of "salvation," with its "revelation" of the presence and power of the living God. This God of

practical religious experience is not known therein as the Whole of Absolute Reality, but rather as a Factor in the whole, sufficient to be the cause of the religious experience of salvation. Just *what* God is, is to be learned through a scientific, empirical theological procedure, making use of observation and experiment in the practical religious life. And here we come upon the true place of the ontological argument. When man's practical religious experience is what it ought to be, and his idea of God has become sufficiently empirical and scientific, he will know that the God of which he has an idea really exists. As certain as he is that there is a total Absolute Reality, and that nature and self and other minds are real, so certain will he be that the God of his theology is a fact of his practical religious experience, and so an absolute objective reality. Thus we see that ability to use the ontological argument—to know from a mere examination of our idea of God, without further argument, that God is real, just as we now pass immediately, or practically so, from the ideas of world and self and other mind to the assertion of their existence —to be able to do this is an ideal, not fully realized as yet, perhaps, by any one. On the one hand our experience of God is not deep or definite enough, and on the other hand our idea of God is not yet empirical or scientific enough; and each of these defects is aggravated by the other. The result tends to be that the more certain we are as to what God must be, the less sure we are of his existence; or the surer we are that God is, the more uncertain we become as to what his nature is. It is a serious inadequacy in the theistic argument of the book before us, that the admission is felt to be necessary that the God whose existence is demonstrated must be regarded as personal from one point of view, and as impersonal from another. But a really existing God can scarcely be both, and we do not know what we have proved until we know what we mean by our terms. If we only know *that* God is, and know not at all *what* God is, we know nothing. The indispensable preconditions of a warranted use of the ontological argument would seem to be the deepening and extending of practical religious experience, and the development of a scientific empirical theology. When finally in this way the so-called onto-

logical argument can be used without hesitation, it will be because the existence of God has become unquestionably certain, and all argument consequently unnecessary. And on our way toward this end we are aided not a little by this remarkable volume, "The Meaning of God in Human Experience."

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DISCUSSION.

UNREAL SUBSISTENCE AND CONSCIOUSNESS.

A Reply to Professor Lovejoy.[1]

The new realists are fortunate in having called down upon themselves the hostile but always fair-minded and illuminating criticism of Professor Lovejoy; and his article entitled "Error and the New Realism" in the Philosophical Review for July, 1913, is the kind of detailed attack which presents to the authors criticised both the duty and the privilege of making answer.

The paper in question consists of separate and successive criticisms of each of the three theories of the nature of consciousness and the nature of error presented in *The New Realism*. Naturally I shall only consider the part of Lovejoy's criticism which bears upon my own doctrine, and I shall put what I have to say in answer to his objections under three heads: I, Error and Unreal Subsistence; II, The Menace of Relativism; III, Hylopsychism as a Theory of Consciousness. As a prelude to his detailed criticisms, Lovejoy makes a very clear statement of the bearing of the problem of error upon the neo-realistic position, to which, however, he affixes a postscript that contains a serious misapprehension of the situation and one which vitiates much of his later analysis. "The new realist," writes Professor Lovejoy (p. 411), "is committed to two characteristic doctrines, realism as such, and epistemological monism: the theory that the object of perception (or other cognition) is absolutely independent of consciousness, and the theory that the real object is with no duplication or modification, immediately present in consciousness, that the thing-in-itself and the actual percept are 'numerically identical.' And these two doctrines have a common root, namely, that consciousness (at least all perceptual and cognitive consciousness) is never anything but an external, non-functional, and non-constitutive relation between a set of objects or between other objects and a physical organism. The point of the argument from error which has been directed against this view, bears, not upon its realistic part as such but upon its epistemological monism and its relational theory of consciousness." So far so good, but Professor Lovejoy continues (p. 411):

[1] The numerals here and throughout when given alone, refer to the pages of Lovejoy's article in the Philosophical Review, Vol. XXII.

"If consciousness is but an external relation, not even the content of an 'erroneous' presentation can exist merely subjectively. It must be as independent and as objective as anything else,—*which means, among other things, that it must exist in real space.*" I agree with Lovejoy that the last clause in this conclusion, which I have italicised, would be an absurd one; but fortunately it does not follow from the premise. The relational theory as premise states that without duplication or change and without prejudice to their independence *all existing objects can be directly perceived.* Lovejoy would compel us to conclude that therefore *all objects that can be directly perceived must exist.* The second of these universal affirmative propositions is the inverse or simple converse of the first, and to suppose that it is implied by it is merely a slip in formal logic. Because I can have direct consciousness of an existing object it does not follow that I cannot also have direct consciousness of what does not exist—hallucinatory objects, for example. One might as well say that because I can be conscious of a cow I cannot be conscious of anything that is not a cow,—a horse, for example. To think of a false proposition does not make it true, to dream of a fantastic event does not make that event real. Consciousness does not confer existence upon its real objects and still less does it confer existence upon its unreal objects. In fact, as I shall endeavor to show in this paper, the status of a content as to its existence or non-existence is not changed or determined one way or the other by its membership in a field of consciousness.[1]

I.

Error and Unreal Subsistence.

Lovejoy advances altogether five objections to my article in *The New Realism.* Three of these are directed against the theory of consciousness, one against the compatibility of that theory with the theory of error, and one against the theory of error itself. I shall begin with the last, partly because it seems to me, as it does

[1] There is in the relational theory of consciousness itself nothing whatever that implies that an object *must* exist in order to stand in the consciousness relation. That theory only maintains that (I quote from my first explicit formulation of it given in an article entitled "A Neglected Point in Hume's Philosophy" (Phil. Review, Jan., 1905, p. 37), "We must think of Consciousness neither as a transcendent substance nor as a unique series of qualities but rather as a peculiar nexus of relations between its objects which, under certain circumstances, supervenes upon the permanent and merely physical relations of space and time. A physical system without ceasing to be physical becomes a psychical system whenever its members sustain to one another those relations which make possible an individual consciousness of them."

to Lovejoy, to be the most important, and partly because it is a consequence and an illustration of that misapprehension of the relational theory of consciousness which has just been discussed. Here again Professor Lovejoy prefaces his criticism with what is on the whole a fair and clear epitome of the views attacked. "In the case of error," he writes (p. 418), "something 'appears' in consciousness which is not *otherwise* real." (The word 'otherwise' should be omitted, for it implies that to appear in consciousness makes an unreal thing or a false proposition *a little bit* less unreal or less false than it would otherwise be, which is the opposite of what I hold.) "How, once more, is this admission to be reconciled with the doctrine that consciousness is a merely external relation? In answer Montague invokes the notion of 'subsistence.' A subsistent is 'any actual or possible object of thought'; it may be real or unreal. Real subsistents are those which belong to the one coherent spatio-temporal and dynamic system of nature and are capable of causing . . . a consciousness of themselves . . . in other subsistents. Unreal subsistents lack causal efficacy and" (have no place in the spatio-temporal system). "But, insists Montague, both classes of subsistents are equally objective and extra-mental. . . . Error consists merely in this that the cerebral or if you prefer, the mental process has pointed at the wrong place, has out of the whole realm of objective subsistents directed its attention upon an unreal instead of a real object. The fact that it is at the present moment perceived rather than not perceived is the work of consciousness; but neither its 'subsistence' nor its status as unreal, nor its distinguishing attributes are the work of consciousness." And now, after this accurate statement of the theory comes the criticism. "In any case," writes Lovejoy (p. 419), "it still remains true that consciousness by Montague's own admission, retains, in relation to false presentations, a highly constitutive role. For by directing its selective attention upon one of these airy nothings it gives it for a moment a new status" (which is exactly what it does not give it as Lovejoy had admitted—in my behalf—a few lines above), "and converts it from a possibility into a genuine existence—an existence, not indeed in real space, but in time and in a context of actual experience. . . . And this is no trivial change. The ontological destitution of the unreal subsistents during the time they remain unperceived is of a degree painful to imagine. Surely it must be a significant moment for one of these when it is lifted up into the realm of historical facts, of actual presentations, and out from among its less fortunate fellows, those merely possible hallucinations and illusions which nobody has ever had or ever will have."

I am not insensible to the literary elegance and effectiveness of this criticism. In order to discredit my unreal subsistents Lovejoy with playful and graceful malice attributes to them not only a reality which they by definition lack, but a consciousness and personality of their own. This device enables him to compare the whole system of non-existent events (or false propositions) to the Gaffer and Granny Tyl of Maeterlinck's *Bluebird* who wait after their death with patient sadness for those increasingly rare moments when in virtue of being remembered by their grandchildren they are galvanized into a kind of parasitic renewal of life. But, after all, how perverse is this literary chaffing; and, from the point of view of a serious logic or metaphysics, how irrelevant! False propositions are not galvanized into a kind of truth when somebody thinks of them or even believes in them. The ocean is not any nearer to containing mermaids because the ancients believed that it contained them. Mermaids and jabberwocks are just as truly non-existent as they would have been if nobody had ever imagined them. Professor Lovejoy laments the "ontological destitution" of the unreal subsistents, which is to pity false propositions for being false. And he felicitates them on the "significant moments" when they are "lifted into the realm of historical facts." It so happens, however, that the mermaids in the Mediterranean are not historical facts at all; they never were and never will be, and consequently we only mock them if we felicitate them on a good fortune which never befell them, and on the significance of moments in their 'lives' which were not significant because they were not moments. The only significant moments in the situation occurred not in the 'lives' of the unreal mermaids, but in the lives of the real poets and mythologists who imagined them. And the only historical fact in the situation is the existence of believings and imaginings and not at all the existence of what was believed and imagined. Professor Lovejoy allows his vision to be confused by the vicious idealistic conception of the act of apprehending as a constitutive rather than a selective act. He believes that when a thing is known it is "lifted up" into the realm of the knower's "mental states" and exists there in time though not in space. Now of course if this subjectivistic doctrine were true, his criticism would be well founded. But is its falsity not evident when applied to specific cases? 'A cat may look at a king,' but that makes no difference to the king who is looked at, though it may be a significant moment to the cat who looks. And if the cat instead of looking at a real king dreams of a king that is unreal, why here again the only difference is to the cat. When Puss abandons

these royal pageants and goes on her way, she does not, as Lovejoy appears to believe, take with her either the veridical or the hallucinatory king. She takes with her not the object remembered but only the memory of the object. And while these kingly memories may be precious and profitable to her, they are without the slightest consequence for their majesties.

I will sum up this whole matter of my doctrine of unreal subsistents by two appeals to my critic. The first of these appeals is based upon the realistic oasis which exists somewhere in the mind of every idealist; the second is based upon certain fundamental presuppositions of elementary logic.

1. Every idealist (if we except the probably mythical solipsist) is a *realist as respects his knowledge of other minds.* However much he may believe that tables and chairs and sticks and stones can be proved to be states of his mind, he always stops short of taking this view of other persons, *e. g.*, his father or grandfather. The realistic status of these last objects of knowledge remains untouched by either of the two classical arguments for the subjectivity of merely physical objects. He will not admit (A) that the fact that he knows his grandfather is in itself sufficient to relegate that personage to one of his own mental states, although he fully believes that the fact that he knows the color red is quite sufficient to prove that that color, so far as he knows it, is his mental state. And he will not admit (B) that the fact that his friends have many different and conflicting opinions as to the character and intellect of his grandfather is any proof whatever that the said intellect and character exists only as conscious states in the minds of himself or his friends—although here again he is quite willing to believe that the color and size of a stone are proved to be subjective by the fact that different observers apprehend them differently. It is these beliefs in the independent reality of other minds that, as I have said, constitute in the mind of the idealist an oasis which not only keeps him from perishing in the otherwise arid wastes of his epistemology but which serve as a common ground upon which to meet the realist and break a friendly lance with him. It is on this pleasant common ground that I appeal to Professor Lovejoy to admit that here at least he cannot dispense with the neo-realistic category of unreal subsistence. To illustrate further:

Suppose that our friend Peter has a toothache. Lovejoy will admit that whether that toothache becomes an object of our knowledge and belief, or whether it remains unknown and unbelieved in, makes no iota of difference to its reality. Of course, our actions will

be determined by our cognitive beliefs, and those *actions* may make a difference to Peter's comfort, but the knowledge or lack of knowledge would not in itself make the toothache either more or less real. Now suppose that Peter had recovered from his trouble, but that we, not knowing of this, still believed that he was suffering. Will Lovejoy claim that the now non-existent toothache is made real by our belief in it? I am sure he will not. He will acknowledge that in this case we are dealing with an unreal object and that our belief in it makes it, fortunately for Peter, in no degree less unreal than it would be if we did not believe in it. The case is typical, and it shows the logical impossibility of holding either that real objects can be made more real or that unreal objects can be made less unreal by any consciousness which anyone may have of them.

2. My second appeal is based explicitly on considerations of formal logic. The nature and the existence or non-existence of any event can be expressed as a proposition; consequently, as was demonstrated at some length in the first section of my essay in *The New Realism*, we may equate the realm of real and unreal objects of thought with the realm of true and false propositions. For example Cæsar's crossing the Rubicon was a real event, *i. e.*, a complex of qualities occupying a definite place in the spatio-temporal system. The full meaning and nature of this event is expressed in the proposition 'Cæsar crossed the Rubicon at a given time in a given place.' And the *reality* of the above *event* is adequately expressed in the *truth* of the above *proposition*. Similarly the refusal of Cæsar to cross the Rubicon is an unreal event, *i. e.*, a complex of qualities occupying no definite place in the spatio-temporal system. (To say that a thing happened never and nowhere is the same as saying that it did not happen.) The full meaning and nature of this event is expressed in the proposition 'Cæsar did not cross the Rubicon.' And the *unreality* of the above *event* is adequately expressed by the *falsity* of the above *proposition*. And as all objective particulars can be equated to particular propositions, so all objective universals which denote the qualities and relations presupposed by particulars can be equated to universal propositions.[1]

[1] It is interesting to note that though the number of unreal events is exactly equal to the number of real events, because by the ineradicable monogamy of logic every proposition has its contradictory mate, yet the number of *positive* events that are unreal, or of affirmative propositions that are false is infinitely in excess of the number of positive events that are real and of affirmative propositions that are true. For every positive event that occurs there must be an infinity of positive events that do not occur. For example, Cæsar going to America or to the North

In view of this propositional aspect of reality, I shall expect Professor Lovejoy to confess that the term 'unreal object' loses its queerness when its identity with 'false proposition' is once understood; and I appeal to him as a logician to admit that false propositions do not become either more false or less false by being known. Nor is there any more reason to sympathise with the "ontological destitution" of objects that do not exist and are not thought of than there is to sympathise with the logical destitution of false propositions in the intervals when they are not known by anybody to be false. If Lovejoy carried out consistently his belief that what never took place gets lifted up into a kind of reality when somebody imagines it, he would have to admit that a false proposition gets lifted up into a kind of truth when somebody believes it. Dr. Schiller and the Modernists could probably take this dose of logical poison without even being nauseated, but for Lovejoy or for any other good intellectualist it would prove certainly fatal.

II.

THE MENACE OF RELATIVISM.

And now that I have appealed to my critic to make these admissions as to the necessity for logic of the category of unreal subsistence, I wish to conclude the subject by voicing a protest and a warning against a doctrine which both Lovejoy and I believe to be false in itself, and which I further believe will ruin the realistic movement if it is not repudiated. I refer to *the theory that the objects of illusory experience enjoy a relativistic existence* in space. If *per impossible*, it should become necessary to abandon the conception of a realm of non-existent events or false propositions whose unreality or falsity is quite independent of whether or not they are objects of consciousness, and if in such a crisis it should become necessary to choose between the subjectivist's view that 'all directly perceived contents (the true as well as the false or hallucinatory) are merely states of the perceiver's mind,' and the opposite view, held by certain self-styled realists, that 'all directly perceived contents (the false or hallucinatory as well as the true) not only subsist but *exist* independently of the mind'—if, I say, I really had to choose between the devil of a familiar subjectivism and the deep sea of this new confusion I should unhesitatingly take my stand with Lovejoy and the idealists. For the

Pole or up in an aëroplane are events which did not occur when he crossed the Rubicon. And as they did not occur the many affirmative propositions expressing them, viz., 'Cæsar went to America, to the Pole, etc.,' are all made false by the truth of the one affirmative proposition 'Cæsar did cross the Rubicon.'

realists' fight for an independent world of objects existing in real space will not have been worth the winning unless they can keep that real space clean and orderly, and clear of the contents of error and hallucination. Better no objective space at all than one which is to be used as a dumping ground for every false and fantastic presentation. *Any one place at any one time must contain but one non-contradictory set of qualities.*[1] Such a set of qualities is what we mean by an object, and its occupancy of one space at one time is what we mean by its existence. Any object may have as rich and numerous aspects as you please; but they are never ambiguous or relative. If one man sees a certain space as red and another sees it as blue, it must be either red or blue or neither red nor blue; it cannot be both red and blue. I cannot say it is red-in-relation-to-one and blue-in-relation-to-another. For a thing's own qualities cannot be determined or constituted by the effects which they produce upon an organism. One and the same thing may easily produce mutually contradictory effects upon different organisms, or upon the different senses of one organism, with the result that mutually contradictory objects will appear or be apprehended at one and the same space. But that does not mean that there really exists in that space a contradictory object. You may apprehend Peter to be still suffering from a toothache and I may apprehend him to have ceased so to suffer, but it would seem ridiculous to us and still more ridiculous to Peter if I were to describe that situation by saying, 'Peter has a tooth that can ache-in-relation-to-you and not-ache-in-relation-to-me.' It would be equally absurd if when a stick is partly immersed in water and I see it to become bent though I feel it to continue straight I were therefore to describe the stick as being bent-in-relation-to-the-eyes and unbent-in-relation-to-the-hand. The so-called 'optically bent stick' is not an existent stick at all. It is a non-existent object which we are caused to perceive by means of a really existent straight stick sending light waves through two media of different refractive powers.[2]

And so I am heartily with Lovejoy in his fight against the unnatural alliance that is threatened between realism and relativism. And I

[1] This principle might be called the axiom of uniplicity (onefoldness). It is an axiom that must lie at the basis of a realistic philosophy, and it expressly repudiates the duplicity with which objects are tainted under the theory of relativity or the theory of internal relations.

[2] The 'axiom of uniplicity' does not mean that a thing in itself must be, but only that it may be, other than as it appears to some one observer. Whether, for example, an object has the precise set of specific or secondary qualities which appear in a given context, can only be ascertained empirically, cf. *The New Realism*, p. 299.

agree with him also in holding that the evils of relativism are in no way mitigated by substituting relativity of objects to the sense organs —'relativity to the body'—for 'relativity to consciousness.' In fact, it would be less difficult for me to believe that a psychical ego could make a straight stick bend by being conscious of it than that a physical eye could produce that result merely by receiving certain light waves. The former is an indefinite and almost meaningless supposition, the latter is definite in meaning and definitely false. The temptation to relativism comes, I believe, from the feeling that realism implies that all objects that are perceived must exist. And as it would be too palpably absurd to hold that contradictory things could exist absolutely, it is assumed that they must exist 'relatively.'

The only alternative to relativism that is open to a realist is the doctrine of a realm of subsistent objects independent of consciousness but composed of events that are unreal as well as of those that are real. For, as we have seen, any argument that is used to prove the dependence upon consciousness of what is false and non-existent can be used equally well to prove the dependence upon consciousness of what is true and real. And, conversely, any argument that avails to prove that the existence of a thing is not determined by a consciousness of it, can be used equally well to show that the failure of a thing to exist is not determined by the lack of a consciousness of it. We realists must take the lean of our realism along with the fat; and we cannot oppose the familiar doctrine that *esse est percipi* without also opposing its less familiar but equally insidious twin: *non esse est non percipi.*

I believe that our only hope of carrying the realistic enterprise to a success lies in maintaining unswerving loyalty to the category of objective non-existence, and in hardening our hearts against all relativistic counsels which would accord an existential status to the objects of illusions and dreams. And we must reject these counsels equally whether they come from our radical allies of the Aristotelian Society or from such conservative friends as Professor Fullerton and Professor Morris Cohen who alas! as reformed Kantians must be feared even when bearing gifts. If the serpent of relativism is once allowed to enter the neo-realistic Eden it will be but a short time before we are all driven forth into the wilderness.

III.

HYLOPSYCHISM AS A THEORY OF CONSCIOUSNESS.

Aside from the attack upon my theory of error, Lovejoy submits four objections to the theory of consciousness that was presented in

my essay in *The New Realism* under the name of "hylopsychism." That theory is as follows: (1) The presence everywhere of routine, and the regular recurrence of those sequences of events which we formulate as natural laws would be infinitely improbable, though not impossible, in a world in which events occurred independently or without any objective connection between them. It is therefore overwhelmingly probable that causal necessity, instead of being as Hume and the positivists believed a merely subjective feeling caused (*sic*) in us by custom, is an objective reality. This objective reality of the cause-effect relation means that each event has in it a self-transcending reference to other times and places than its own, in virtue of which it determines the events that occupy those times and places. This self-transcending reference may be called either potentiality or implication. If the word potentiality is used it must be broadened to include the retrospective virtual presence of a cause in its effect as well as the prospective virtual presence of an effect in its cause. If the word implication is used, it must be used in an artificially narrowed sense to exclude abstract, geometrical or syllogistic implication, and to include only such implication as obtains (irrespective of any inference-drawing spectator) between the concrete individual events of a causal series. (2) The self-transcending-reference of events thus proved to be a *vera causa* exists throughout the inorganic world so far as we can see, only in the form of relatively impermanent and unsystematized 'potential energy' or suspended motion. But the processes characteristic of living matter involve the systematic accumulation of *specific* potentialities not only of motion but of chemical patterns which in the process of ontogenesis, and of assimilation in general, are imposed upon the unspecific and katabolized food materials with the result that the latter are transformed or built up into the definite tissues and organs of the growing organism. (3) The central nervous system exhibits this capacity for retaining and expressing specific potentialities in a new way. Instead of assimilating matter, it assimilates energy; and by storing up traces of the specific forms of motion that proceed from extra-organic objects, it builds up a 'psychic organism' composed not of differentiated forms of matter but of differentiated forms of energy. These cerebral energy-forms are our memories, and they implicate or reveal a world outside themselves both in time and space. It is by virtue of these self-transcending implicates of the brain that man is enabled to experience duration and to act teleologically, *i e.*, to act at each moment with reference to events of the past and future.

There are a number of empirical arguments in support of this hypothesis as to the nature of consciousness. Some of these arguments I have stated in *The New Realism* and some in my article on "Consciousness a Form of Energy" in the volume of *Essays in Honor of William James*. There are moreover certain considerations of a general nature which may be briefly stated as follows. (1) If we are right in assuming that the potentiality, in virtue of which the events of a causal series mutually determine one another, must be something actually real in itself—and not (as the positivists hold) a mere groundless expectation in the mind of an observer—then the only conceivable actuality of such potentiality is that of consciousness. (2) If we are right in holding that consciousness of the past and of the beyond involves a reference (of the brain processes which at any moment condition such consciousness) to times and places other than those of the brain processes themselves, then the only conceivable nature of consciousness is that self-transcending implication of the events in a causal series which when viewed from without we characterise as potentiality. In short, potentiality is of such a nature that it can be thought of intrinsically or for itself only as consciousness, and consciousness is of such a nature that it can be thought of extrinsically or for an external observer only as potentiality. (3) The identification of mind with the system of specific potentialities stored up in the brain makes it possible to explain teleology without explaining it away. In the behavior of living beings possessing mind the *telos* of a process appears to be a true and genuine cause in determining its own realization.

The mechanists and parallelists hold that this appearance of purposiveness is illusory and that the cerebral machine is really as blind as any other machine and in no way influenced by consciousness and its ideals. The vitalists and interactionists go to the opposite extreme. They admit the genuineness of teleology but hold that it can only be explained as the result of an extranatural or supernatural entity such as a vital force or soul. Our theory agrees with vitalism in recognizing the genuine efficacy of purpose, but it agrees also with mechanism in refusing to admit any non-natural factor operating outside the material system. By utilizing the category of potentiality it explains how consciousness can be a real efficiency in *nature* without being *unnatural*. It makes possible the naturalization of teleology. It provides, so to speak, a mechanistic formula for a finalistic process. A material body that retains the traces of past effects and stores them up as specific forms of potential energy becomes teleological without ceasing to be material. It acquires the teleological property of acting

with reference to what is distant from it in space and time; but it acquires this new property without losing its own position in space and time and hence without losing its membership in the mechanical world-order. It is still a brain, though it has become a mind. Consciousness is thus identified with the potentialities of matter without being made an epiphenomenon. The psychical is reduced to a function of the physical without being in any way degraded or explained away. The very fact that mind or purpose is only matter's potentiality ensures to it a place in the world coextensive and coeternal with matter itself. The mechanists would liken consciousness to a shadow cast by the cerebral processes, or to a squeaking of the cerebral machinery occasioned by more or less continuous interruptions of the smooth-running reflexes. According to our theory they are wrong. My consciousness is not the shadow or the squeak of its own brain nor even (as Santayana puts it) "the lyric cry" of an otiose and epiphenomenal spectator of bodily doings. *We minds* are neither more nor less than the potentialities of our self-directing cerebral protoplasm. It is just because we are thus imbedded in matter and play an integral part in the physical economy that we can transcend the mechanical contacts of the here and now, and, through memory and imagination, adjust our behavior to an environment which not only extends indefinitely in time and in space but which reaches up into Plato's realm of logical and ethical ideals which are deathless and eternal and wholly independent of the vicissitudes of mere existence.

Against this theory of semi-teleological materialism or 'hylopsychism' Lovejoy offers four objections:

1. "'Self-transcending implication,'" he writes (p. 417), "is used to signify now the mere logical relation of cross reference and now the mere existence of 'energy forms' in one place (*i. e.*, inside the skull) which do factually depend upon other existences." This criticism is partly answered by the résumé of my theory which I have just given. The central weakness of the objection consists in the conceiving of 'energy forms' as static modifications of the brain instead of as potentialities of what is other than themselves. If the category of potentiality is admitted to be objectively valid, then a specific form of potential energy in the brain may have for its content or implicate an object or quality-complex outside the brain. And the relation between the cerebral state and the object perceived is analogous to the relation of tension to motion, of the acorn to the oak, of the intention to what is intended, of a word to its meaning, of the pointing to the pointed at.

2. The second criticism is based on a sheer confusion of my theory with the theory of some one else—a confusion the reason for which I am at a loss to understand. Lovejoy writes (p. 417): "Upon closer scrutiny the scheme reveals no really practicable way of escape from epistemological dualism. For let *A* represent some past 'event' and *B* a present memory image (or the corresponding brain event) which 'refers' to *A*. Now obviously *A* and *B* are not numerically identical, for they exist in different times, and, if *B* can be said to exist in space at all, then in different spaces also. Nor does it help to say that *B* is a 'part' of *A*; . . . the very notion of 'self-transcendent reference' implies the real duality of that which transcends and that which is transcended." The confusion and misrepresentation involved in this criticism is so great that I hardly know where to begin. So far from holding that a remembered event *A* is numerically identical with the brain event *B* that does the remembering, my whole theory is a protest against such a notion. Of course I agree with Lovejoy that the objects apprehended are not parts of the brain processes that apprehend them. To say that they are would be as foolish as to say that the man Shakspere is part of the nine letters that spell his name. Why should Lovejoy ascribe to me a view that is not only intrinsically absurd but is in the most explicit contradiction to my whole theory? "Self-transcendent reference implies duality," writes Lovejoy. I should hope it did! It was because of the duality so clearly connoted that I chose the term. It is the quintessence of the perception-puzzle that *a brain process going on here and now can reveal events occurring in other times and places.* There can be no numerical identity between the brain state and the object perceived. Nor can either be regarded as 'part' of the other. After many readings of the passage I have concluded that my critic was misled by his own obsession in favor of an epistemological dualism which holds that we can only perceive and remember our own states or images and that real things have to be 'inferred' from these mental data. He says in the passage quoted above "Let *B* represent a present *memory image* (or the corresponding brain event)." Now I agree with Woodbridge in denying the existence of such hybrid things as 'memory images,' 'ideas' or 'sensations,' which are assumed to differ both from the real objects which they are supposed to 'represent' and also from the physical brain processes which 'accompany' them. The object and the idea or datum of consciousness are not two things but one thing considered in two different (though not contradictory) contexts. I call a quality-complex an 'idea' when I think of it in the peculiar relation of being

an implicate potentiality or meaning of some brain-event. I call that same quality-complex an independent 'object' when I think of it in all of its other relations to its neighbors in the spatio-temporal system. A true 'idea' and the 'object' of that idea differ neither more nor less than the Julius Cæsar that we read about differs from the Julius Cæsar that crossed the Rubicon. Lovejoy would apparently ascribe to me the doctrine that when I seem to be remembering a past event I am really only remembering my present memory state or brain state. That may be his doctrine but it is not mine. When I remember my breakfast of yesterday, it is yesterday's breakfast that I am remembering, and most certainly not an image of it or the present brain state which makes the memory possible. All this is of course only a restatement of the relational theory of consciousness. There is, to be sure, a duality involved in perception or in any form of apprehension, but it is the real duality of a brain event and its potentiality or implicate and not a supposititious duality of immediately given object and transcendently real object. This does not mean however that the brain does not contain more or less accurate simulacra of extra-cerebral objects. Only such simulacra are not the objects perceived but rather the means by which those objects are perceived. I agree with Pitkin (and Holt?) that the extra-organic world produces in the sentient organism a system of effects which stand in the same one-to-one correspondence with their causes that obtains between a primary geometrical system of lines and the secondary or derived geometrical system which constitutes the projection of the former. But I differ from Pitkin in that I hold that if perception revealed only the intra-organic effects of extra-organic causes we should never be able even to infer or discuss the extra-organic causes themselves. We should be reduced to the wretched status of an *intra-cranial solipsist.* The truth is that if we cannot get beyond our own brains in immediate perception we cannot get beyond them at all. *For the only space and time in which we can locate the causes of our perceiving is the space and time revealed in perception.* If the latter is not outside our own bodies, then nothing else is. This physiological solipsism can only be avoided by accepting the theory that the effects produced in the brain are not merely a projection-system of simulacra but forms of potential energy which by their function of self-transcending reference reveal *not themselves* but their possible causes and effects. The relation of the cerebral simulacra to the objects perceived is strictly analogous to the relation of the real images or light waves on the surface of a mirror to the virtual images which we perceive behind or through the mirror.

In short, the world that we perceive is (not indeed an actual but) *a virtual or potential reprojection of the effects which the world projects upon us.* And just as the virtual images that appear behind the mirror may be (but need not be) identical in quality and position with the objects that cause them, so the objects that we perceive may be (but need not be) exactly identical with the existing objects that cause our perception.[1]

3. Lovejoy offers as his third objection to my theory of consciousness the principal difficulty stated by Pitkin in the appendix to *The New Realism.* If the brain states imply their simplest or most probable causes and effects they ought also to imply and so reveal the endless series of the causes of their causes and the effects of their effects. This result obviously does not occur; therefore the relation between the event perceived and the brain state by which it is perceived cannot be identified (as it is in my theory) with the relation of cause-effect implication. I cannot but regret that in the hurry and confusion of getting our volume ready for the press I was not afforded the opportunity to remove the misunderstanding upon which this final objection of Pitkin's was based. That misunderstanding relates

[1] Lovejoy calls attention at the beginning of his article to the disagreement of Holt, Pitkin and the writer, and he evidently feels that that disagreement is seriously damaging to the common cause. I do not blame him for calling attention to our differences, but I think that he might at the same time have taken note of the pretty substantial measure of agreement which we have attained. Our divergencies on the problem of perception are confined to one point: the question of how, if at all, we can apprehend anything beyond our cerebral states. Pitkin holds that the projection of the extra-organic objects upon our brain is so complete and so permeated with space and time relations that we do not need to get at anything outside of it. If the mountain comes all the way in to Mahomet, Mahomet has no occasion to go out to the mountain. Holt feels with me that we must get beyond the specific qualities or periodicities caused in the cerebrum. And, with Perry, he holds that the perceiving brain makes this escape by its 'specific responses' or motor reactions. My own view is midway between the two. I cannot rest with Pitkin (or Case or Leibnitz) inside the cerebral projection-system however perfect the latter may be; but neither can I agree with Holt and Perry that any form of behavior or bodily movement could of itself reveal the past and the beyond. As between *no act* and an *actual act* I posit a *virtual act*—a potential reprojection into outer space and time of the cerebral system of effects. Aside from this divergence of opinion on the numerical aspect of epistemological monism, we are, I think, agreed on the qualitative aspect of the question. We all hold (1) that there is no duality of *kind* between perceived objects and real objects, (2) that consciousness is a natural and physiologically explicable occurrence and (3) that error also is susceptible in general and in particular of a perfectly objective empirical and naturalistic explanation. These agreements are more important than our disagreements. They make us different varieties of one species rather than different species.

to what I meant by 'simplest cause.' The simplest cause or the simplest effect of an event is another event having the same qualities but differing in spatio-temporal position. It is only when distorted by a second coöperating factor that the effect of a thing is *qualitatively*, as well as numerically, different from the thing itself. Consequently the implicates of the brain events which constitute the perceived object are qualitatively, though not numerically, the same complexes as the brain-events themselves. They differ from these cerebral simulacra only numerically or in position. They are 'projected' into space outside the body and into past or future time as the color of a red glass is 'projected' upon the objects seen through the glass. We do not see our brain states but we do see through them. And all that we experience is therefore colored and qualified through and through by the cerebral medium consisting of present nerve currents and of the stored up memory traces of past nerve currents. This answer or rather this explanation has satisfied Pitkin, so far as this particular objection is concerned, and I hope that my present critic will be equally satisfied.

4. The last objection that Lovejoy urges against my theory of consciousness is to the effect that it is inconsistent with my theory of error. "There is nothing," writes Lovejoy (pp. 419–20), "in the concept of causal implication which corresponds to that mis-reading or wrong reference, which is, according to Montague, the essence of error. A physical event does not of itself have false causes or false effects; and it does not have some causes or effects in the realm of real existence and others in the realm of the merely subsistent. . . . The whole identification of consciousness with causality breaks down." This fourth objection is partly answered by the explanation given above in reply to the third objection. An event *tends* to produce as its effect its own qualities over again at another time and space. But this intrinsic implicate or 'simplest' effect is only actualized when there is no other tendency that counteracts or distorts it. The oak-potentialities of an acorn are not always realized. What is realized is often a compromise resultant of several tendencies. In the same way, an event is not always actually produced by its intrinsic implicate or 'simplest cause.' Any one of a number of different causes can by combination produce a given effect. I never asserted that those implicates of a brain-event which constitute the perceived object were in *every* case actual causes and effects of that brain-event. On the contrary, I stated very explicitly that the cause-effect implicates were tendencies which might be but need not be actualized. When the

self-transcending implicate of a brain event happens to have been the actual antecedent or the actual consequent then the object perceived exists and we have *truth*. When on the other hand there is an uncorrected distortion such that the simplest cause or the simplest effect of the brain-event does not exist, then its intrinsic implicate or perceived object is an unreal subsistent, and we have *error*. My identification of consciousness with the cause-effect implication is not only not inconsistent with my theory of error; it is actually a basis for explaining somewhat precisely the different kinds and degrees of error.[1] But I think that the difficulty which Lovejoy voices in this fourth objection is based not only on the failure mentioned above to note the distinction between the simplest cause and the actual cause (which may be but need not be identical), but also upon his dislike and consequent misconception of the category of potentiality. As a good positivist he probably feels that there is no sense in distinguishing the potentiality or implicate of a thing from its actual antecedents and consequents. I admit that if causality were taken in this positivistic sense of mere sequence there would be no validity in identifying it with consciousness.

Our critic closes his article with the disconcerting announcement that aside from his reviews of Perry he has now examined in turn the theories of McGilvary, Pitkin, Holt and the writer, and that the results of the examination are unfavorable and compel him to conclude that the neo-realists have failed in what he feels to be their principal task, viz., an epistemologically monistic account of consciousness and a self-consistent solution of the problem of error. And yet, after all, his valedictory in spite of its sternness has in it a distinct and gratifying note of regret. He leaves us, it would seem, more in sorrow than in anger; and I for one am optimistic enough to hope that if, as is likely, my replies do not appease him, the answers which my confrères are doubtless preparing, and which his penetrating criticisms so richly deserve, may move him to give our theories one more trial before abandoning us forever.

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[1] Cf. *The New Realism*, pp. 289–292.

REVIEWS OF BOOKS.

Die Grenzen der naturwissenschaftlichen Begriffsbildung: Eine logische Einleitung in die historischen Wissenschaften. Von HEINRICH RICKERT. Zweite neu bearbeitete Auflage. Tübingen, J. C. B. Mohr, 1913.—pp. xii, 644.

It is rare that a highly technical work on logic, or rather on a somewhat specialized department of logic, gains so wide a currency as Professor Rickert's book has enjoyed. The first edition has been out of print for a number of years and the demand is still great enough to justify a second edition. The book was, in fact, unusually fortunate in the date of its first appearance, for it came at a time when the method of historical science had been for some years a lively subject of controversy among historians, due chiefly to Lamprecht's spirited attack upon the 'alte Richtung.' Not only logicians, therefore, but the learned public generally, were prepared to consider with interest and attention Professor Rickert's most general thesis, viz., that the method of history conceals a neglected problem, the solution of which will supplement the one-sidedness of a logical theory based solely upon the methods of the natural sciences. Professor Rickert's book was in no sense merely a contribution to the controversy between the 'scientific' historians and the defenders of the 'alte Richtung,' but it was a document of far too great importance to be neglected by either of the parties. Hence it found a circle of readers far wider than usually falls to the lot of a book of its kind. Moreover, its able defense of a non-naturalistic history brought it into high favor with the many historians who found themselves out of sympathy with the project for supplying history with a 'new' method modeled upon the natural sciences.

In fact, as Professor Rickert says in the new edition, the book was 'better understood' among specialists in history and the allied sciences than among logicians, a result which is not hard to understand but which is not necessarily a ground for the satisfaction that Professor Rickert seems to take in it (p. vii). Of course, it is possible that the result was due to the blindness of the logicians, who were wedded to the assumption that all science must be of the type of natural science; but on the other hand it may have been due to the fact that the chief value of the book lies less in the logical structure that Professor Rickert

values so highly than in his defense of history against a confused and mistaken conception of its method. I believe, in fact, that this was the case. It is easily possible to recognize the very high merit of much of Professor Rickert's book, for example, the accounts of historical connection and development or his proof of the importance of valuation in history, without admitting that he really accomplished what he set out to do, viz., to construct a logic of history which would properly theorize the relations between history and natural science. In general, most of what Professor Rickert has to say about the method of history appears to be sound, but the logical foundation on which this is supposed to rest seems to me unclear and probably untenable.

The changes that have been introduced into the second edition are very many. There is hardly a page on which at least some verbal changes have not been made. These changes are uniformly improvements and the book has gained both in clearness and in directness from the revision. Not much has been omitted, but a good deal has been added, mostly in the way of short additions scattered over the whole book. Consequently the work is now from ten to fifteen per cent. longer than the first edition, though the number of pages has been cut down by the use of smaller type and a larger leaf. The increase in length is a misfortune, for there was already a good deal of repetition in the first edition. There is no withdrawal or important modification of any of the main contentions of the first edition and the order of presentation remains substantially the same. The most noticeable change occurs in the last chapter where the two sections on "Epistemological Subjectivism" and "Critical Objectivity" are consolidated under the heading "The Objectivity of Values," and are revised to eliminate the last traces of a voluntaristic psychology (p. viii). This does not alter Professor Rickert's conviction that logical values depend upon an hyperlogical will (p. 604), as he held in the first edition. It means only that the sphere of the theoretical is independent so far as its own values are concerned. The distinction, it must be said, seems rather artificial. If the logical as a whole depends upon the will, it is hard to see why the will should so limit itself as never to affect particular logical values.

A distinction of this kind, and there are many such in the book, is perhaps a fair example of a certain finical formalism that mars Professor Rickert's work. The reader seems always to be finding the discussion cut short by the assertion that certain considerations are only 'material' and are therefore not relevant to a formal discussion of historical method, while at the same time a great amount of space is

consumed in elaborating formal connections that scarcely seem worth the trouble. Sometimes it almost seems as if the pursuit of formality were a way of drawing a conclusion without committing the author to anything definite, as when he holds that historical conception as such needs only a formal objective value. It is, of course, quite fair and proper that Professor Rickert should limit his subject by omitting the technical details of scientific and historical methods; but it is not true that the distinction of formal and material offers the clear principle of selection that it is assumed to be. On the contrary, the precise incidence of the author's conceptions is often not clear; one does not always know what the exact status of an argument is. I shall try to illustrate what I mean by considering the general logical frame-work of the book.

Professor Rickert holds that immediate experience, when considered in its immediacy, is an 'unübersehbare Mannigfaltigkeit'; that is, it is composed of an infinite variety of objects, each capable of being divided indefinitely and of being considered in indefinitely many aspects and relations. It is the function of scientific conception to simplify this manifold, to substitute definite and valid universals for the unintelligible throng of unique individuals. It thus completes and perfects the simplification which is already begun in the general meanings of words. Hence, it follows that the individual is itself the limit which the scientific concept cannot reach (p. 197); for as a universal the concept can express only that which is common to all the members of a class, however limited the extension of the class may be. The formulation of a law for the content of a single object or event is a contradiction in terms, and conversely an established law can never be made to yield the individual content of a single case. Nature, using the word in its scientific acceptation, is empirical reality considered from the point of view of universality (p. 169).

Let us pause here to ask a question. What experience, or whose experience, is Professor Rickert describing? This question, I believe, brings to light the difficulty mentioned above of determining exactly the bearing of the author's theories. What exactly does immediacy mean for him when he insists, as he does over and over again, that every physical or mental process, as we immediately experience it, is an individual (*e. g.*, p. 195)? How would he justify the statement or how can one attack it? If one points out that no experience, as it is experienced by him who experiences it, really 'feels like' a multitude of unique individuals, one will be met, I suppose, with the reply that this 'feeling' is not relevant in *Erkenntnistheorie*. But who can

judge what experience is, 'so wie wir sie unmittelbar erfahren,' except the person who is doing the experiencing? The fact is that it requires a considerable capacity for abstract thought to regard every object as unique; one has to abstract from the processes by which objects are habitually identified, processes which in time certainly antedate the appearance of clear self-consciousness and so are thoroughly ingrained in our mental constitutions. And if all this is to be put aside as a 'psychological' consideration, why does Professor Rickert not explain what logical immediacy is? The truth is that this way of attacking the problem of concepts is itself psychological and the remnant of a bad psychology. An experience such as Professor Rickert makes his starting-point is a fiction; to explain conception as simplification in this sense is to invent a problem for the sake of solving it. Historically it goes back to Kant's effort to graft pure forms of thought upon an experience composed of mere sensations; the truth being that neither of these factors in the Kantian problem ever had an existence except as the abstractions of Rationalism on the one hand and Empiricism on the other. The unfortunate result of Professor Rickert's mode of describing the method of natural science is that he starts from no clear and tenable theory of the place of scientific conception in experience.

The account of scientific conception, however, is only preliminary to the author's main purpose which is to explain historical conception. Unfortunately it is from this artificial and untenable introduction that he proceeds to his main theme. As we have seen, it is the unique individual which sets a limit to the construction of scientific concepts. Empirical reality may, however, be considered from a point of view quite different from that of generalizing conception; it may be so treated in conception as to preserve its uniqueness and individuality. This, in the most general sense, is the meaning of history (p. 224). The definition so gained is, of course, purely formal; it is in no sense an account of history as a science, but it expresses the fundamental opposition between the historical on the one hand and the natural on the other. History, therefore, is the science of reality. The question still remains open how empirical reality can be elaborated in concepts which will not, like those of natural science, destroy its individuality,—hence the chief problem of the book, "Die historische Begriffsbildung" (Ch. IV). Here Professor Rickert shows that the historical individual, in addition to bare individuality (particularity in time and space and uniqueness of quality), must be also indivisible, and this follows from its relation to a value; its division would involve

loss of value (pp. 305 ff.). Hence two kinds of individuals must be distinguished, the individuality of mere uniqueness, which every empirical reality possesses, and historical individuality, which implies that the unique object is valued as such.

Now it is significant that from this point forward Professor Rickert is concerned almost wholly with defining this 'relation to value' which forms the essence not only of the historical individual but also, as appears later, of historical connection and development. The discussion of these questions seems to me far the most valuable part of the book, and the proof of the importance of valuation in history is, I believe, conclusive. But in the meantime what has become of the formal structure that Professor Rickert was building? From a merely formal point of view the argument really breaks in two with this introduction of two kinds of individual; there is no strictly logical way of passing from one to the other. Every question that concerns historical science turns upon the latter; mere uniqueness in itself has no more significance for history than it has for natural science. Significant individuality has no relation to mere uniqueness, for historical individuality is imparted to empirical reality by the construction of historical wholes in the same sense as scientific universality is imparted to the same reality by its inclusion in a general concept. How else can relation to value ever be definitely shown? This consequence is concealed in Professor Rickert's presentation of the matter by two facts: After he has introduced the standpoint of value he largely abandons the fiction of an immediate experience composed of a manifold of unique individuals; valuation itself is immediate. And again he follows the order of developing broader historical wholes from narrower. But surely the logical relation between whole and part cannot be one-sided in this case; if a period is valuable because of the great individuals it produced, the individuals can be evaluated only by the part which they played in their period. This view is really quite in accord with much that Professor Rickert himself says about the formation of historical concepts, but it certainly destroys the whole theory of an identification of the real and the historical as the limits of scientific conception.

If the relation of conception to experience is unclear in Professor Rickert's system, the relation of the two opposed kinds of *Begriffsbildung* to each other is not without its difficulties. The exact status of the two processes is not easy to determine. It is quite clear, I presume, that they cannot be called 'faculties' or powers of the mind. Professor Rickert insists moreover that they are not two kinds of

science but only 'two chief tendencies of scientific work' (p. 264). Pure mechanics approximates indeed to the one type and biographical history to the other, but considerable space is devoted to showing that there are historical elements in all existing natural sciences and scientific elements in all history. It is, of course, clear that many considerations not strictly logical have had a share in marking the boundaries of the sciences, but there is nevertheless a real difficulty in the way of a theory that finds two opposed logical elements in every science. The ideal of a common intelligibility at which all thought aims is thereby surrendered and no logical account can be given of the coöperation of the two elements in one science. It is hard to believe that such connections are wholly external. Moreover, the fact is suggestive that, after apparently identifying the universal with the generalizing scientific conception, Professor Rickert can find no better word for the historical whole, which is 'universal' as compared with the lesser individuals that make it up (p. 354). He points out quite rightly that 'universal' here does not have the same meaning as it has when applied to the scientific law, for it is not inconsistent with individuality; but the use of the same word ought to indicate some underlying logical identity between the two. Indeed, if the ideal of a theory of knowledge *aus einem Stück* is to be maintained, some such identity can hardly be dispensed with. Here again Professor Rickert's formalism is at fault. He rejects absolutely the view that difference of subject matter has any importance in a logical treatment of the differing methods of natural science and history; this is merely a material and not a formal distinction. But this formalism defeats itself doubly. By contrasting the two types of *Begriffsbildung* we get not one logic but two, while the rejection of the difference of subject matter is only apparent so long as relation to value is regarded as the differentia of the historical individual.

The objections which I have urged against Professor Rickert's logical system are not inconsistent with a recognition of the many merits of his book. It might, indeed, have been less objectionable from a logical point of view and yet have been less valuable than it is. But the best parts of it force their way in, so to speak, in defiance of the limitations set by his formalism, and one has the feeling that other elements of value might have got in had the author worried less about the exact boundaries of an 'erkenntnistheoretischer Versuch.' In a word, the formalism ought to have been either less intrusive or better done.

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The Problem of Christianity. By JOSIAH ROYCE. New York, The Macmillan Company, 1913. 2 vols.—pp. xlvi, 425; vi, 442.

These notable volumes reproduce lectures delivered in 1912–13 at the Lowell Institute in Boston and Manchester College, Oxford. Their original form conditions certain features of the discussion. The vivacity, even eloquence of the oral presentation enlivens the printed argument. But the professional reader misses at times the uninterrupted precision of technical exposition. In one point, however, the gain outweighs any loss. Professor Royce's discussion of Christianity is born of experience. Its source is to be found in the experience of a philosopher and a convinced Idealist. But, as the preface suggests, it is no discussion of the closet, framed by the application of *a priori* categories to assumed religious facts. If any one so misconceives the author's method, the study of a single chapter will suffice to correct the error: he need but read in Lecture VI the profoundly moving account of the Christian principle of atonement in relation to human experience and to the modern mind.

The first volume deals with Christianity as a doctrine of life, the second with Christianity and its metaphysical basis. One problem is common to both, the problem of essential Christianity—what is it in the first place? and how is it to fare amid the vicissitudes of later culture? Recent philosophers of religion have often neglected this problem, but from their position Professor Royce emphatically dissents. For him Christianity is the form of faith which so far in the evolution of the world best fulfills the function of religion in the changing life of man. For the principal ideas of Christianity he also cherishes respect: sin and grace and atonement, these are not to be minimized but interpreted. For they are grounded in the spiritual experience of the race. And so they possess objective reality, a fact which confutes the advocates of "liberal" doctrine, as well as the dogmatists who petrified them into literal abstractions. The solution of the problem is to be found in the idea of the spiritual community. As loyalty forms the keynote of the author's ethics, so the studies of his later years have led him to an Idealistic religion of loyalty. The Pauline doctrine of the body and the members re-appears in the idea of the "Beloved Community." It is to this that devotion is due, and disloyalty to it constitutes the irrevocable sin of the spiritual traitor. In communion with the spiritual body grace is to be found; salvation is redemption from disloyalty through union with the spirit of the whole. Even the irrevocable sin can be atoned for: the deed can never be wiped out, but through the work of a redemptive agent

it may be made the occasion for common spiritual gain which had otherwise been impossible. So even the traitor may realize the good that his evil, his irrevocable evil, has brought forth.

The method of the argument varies with the phases of the problem. The fundamental Christian ideas are considered from the standpoint of spiritual experience. Together they constitute the Christian doctrine of life, whose truth and value are attested by their conformity to this experience. But experience has metaphysical implications. Therefore the inquiry proceeds from the discussion of the Christian ideas to the discussion of their basis in reality. This implies primarily the reality of the community, a reality which, as the author holds, has been underestimated by the great majority, even of the best writers hitherto. As the individual consciousness, so the social mind develops its characteristic life. This is other and richer than the consciousness of the detached individual. And as it is richer in itself, so it has characteristic manifestations in language, in institutions, above all as the center of the ethical and spiritual ideal. Professor Royce stops short, indeed, of the personification of the community, although isolated expressions in his earlier argument appear to favor such a conclusion. But short of this, and short of ignoring the individual personalities which compose the common body, he exalts the community to the highest place. To the community devotion is due, as to it in fact devotion is given beyond that which is bestowed on any individual. The Christian ideal is true, because it is congruous with the truth of the community idea. The Beloved Community as a constantly realizing, but never fully realized ideal—is the Kingdom of God for which mankind are summoned to labor and to pray.

The metaphysics of the community once more links Christianity with the reality of the world at large. The community itself is the type-form which best solves the old problem of the many and the one. And through a study of knowledge it leads to a new development of Idealistic doctrine. Traditional theories from Plato to Bergson have recognized two modes of knowledge, perception and conception. The Platonists have emphasized the latter, the empiricists, down to James and Bergson, with equal partiality have magnified the perceptual form of thought. To neither school, nor to the many who now discern the constant fusing of perception and conception, has it been given to note a third and more important form. This is "interpretation." Self-consciousness is the interpretation of the individual's present and his future to himself. History is the interpretation of the past in lessons for the present and the time to come. Science proceeds by the

verification of hypotheses, and verification is interpretation of the individual's discovery into established doctrine accepted by the common mind. Following Charles Peirce, from whom he derived the germ of his own theory, Professor Royce defines interpretation as a triadic mode of cognition. There is that which is to be interpreted, there is the mind to which it is to be interpreted, there is the interpreter to mediate the two. More abstractly, interpretation is illustrated by comparison. Terms do not agree or differ—merely. They agree—or differ—through the mediation of a third, which interprets their likeness or difference. But this interpreter, this third, involves fresh problems. Whence come new mediations and new interpreters—to infinity.

Finally, this highest form of knowing supplies the clue to universal metaphysics. The time-order is of the nature of interpretation. The evolution of the world is the manifestation in time of the one ideal-reality through successive partial syntheses of interpretation. The spirit of the world is the infinite interpreter, as the spirit of the community is the mediator of all its individual members. So the metaphysics of the community and the metaphysics of the world are one. And essential Christianity, summed up in the idea of the Beloved Community, articulates into the final truth about the world.

That his philosophy of religion suggests manifold questions is recognized by the author, who also frankly considers the issues raised. Two classes of these only can be noted here. In the field of religion proper, and of Christianity, his conclusions most directly challenge current views in regard to a class of questions which may be termed questions of personality. The influence of the Founder of Christianity on the primitive Chrisitan community; the relation of the individual to the community in any religious body; the personal character of religious devotion and of its objects—these are conceived differently by Professor Royce and many later thinkers. As already noted, he avoids the conclusion that the community is a person, and rightly; but what of the Spirit of the Community, and what of the Infinite Interpreter? In philosophy, most interest will be aroused by the new doctrine of knowledge. Is 'interpretation' specifically different from that fused synthesis of perception and conception which is justly recognized as the common form, or is it a phase of the same essential process? Is comparison the type of interpretation, or must not other forms of synthetic thinking be correlated with it? In either case, does the noëtic ground compel the inference to the metaphysical conclusion? And if so, does the new Idealism free us from the

ultimate difficulties which were involved in the religious philosophy of the old?

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Identité et Realité. Par Émile Meyerson. Deuxième Édition. Revue et Augmentée. Paris, Félix Alcan, 1912.—pp. xix, 535.

The first edition of this important book was published in 1908. In the present edition the work has been augmented by one hundred pages.

The work is a discussion of the fundamental epistemological principles of the physical sciences in the light of their history. The philosophical principles of biology and psychology are only incidentally dealt with. Professor Meyerson works out, with admirable clearness and with abundant illustration, his general view of the leading principles of physical science. The most striking feature of his book is its very thorough and exhaustive historical documentation. He seems to have a complete and ready command of the history of the physical sciences as well as of the history of philosophy. No less than four hundred and sixty-seven authors and schools of thought are either cited or referred to and always, so far as I am able to judge, with pertinency to the points under discussion. I know of no writer in this field since Whewell who shows so much learning. The student of the logic of the physical sciences will find the book a rich mine.

The book begins with an examination of the theory advanced by Comte, and in our own day most notably represented by Mach, that science has, or should have, no other task than to determine descriptively the *laws* of phenomena with a view to prevision and action. M. Meyerson contends, very justly I hold, that the principle of *legality* alone furnishes a very insufficient conception of the aims of science. Science seeks to *explain* phenomena *causally*, and all explanation consists in establishing the identity of antecedent and consequent. This is the scientific conception of causality, which thus aims at the reduction of all difference to identity and would issue, if completely achieved, in the elimination of time and change. Progress towards this aim means the triumph of mechanical methods and principles of explanation, and M. Meyerson holds that mechanism has proved to be by far the most fruitful method of science. Science will continue to follow this road, although it will always be confronted by an irreducible and irrational factor in experience. The most widespread, persistent, and fruitful mechanical conception in the

history of science is *atomism*. The origin and persistence of atomism is due to the fact that it is an expression of the causal principle of identity in time in the form of an explanatory ground of the discreteness of phenomena in terms of a fundamental discreteness in mass, motion, and arrangement in space. The concept of action at a distance is antispatial and is thus unsatisfying from the mechanical standpoint. On the other hand, the concept of atoms in immediate impact communicating motion leaves something unintelligible on our hands. The *principle of inertia*, which was unknown to the ancients, emerges in modern thought as a special form of the doctrine of the conservation of motion, that is, as an application to motion of the postulate of identity in time. The principle of inertia has not been demonstrated *a priori* and it can hardly be regarded as a truth established by experience. It is a plausible application of the assumption that velocity persists in time. The ancients did not distinguish between mass and weight and yet the Epicureans postulated the *Conservation of Matter*. There are three distinct notions here—matter, weight, and mass. Weight is a purely empirical notion, whereas mass is a necessary convention of thought. The Conservation of Matter is not established beyond peradventure by experience, since even at the present time the determination of atomic weights is only approximate. Like the principle of inertia, the conservation of mass is a plausible principle applied to phenomena as a deduction from the principle of causality. The electric theory of matter shows that it is not *a priori*. The ether again is an imponderable mass—a conventional concept deduced from the principle of identity. The doctrine of the *Conservation of Energy* is likewise a plausible application to phenomena of the postulate of identity of cause and effect in the temporal series. Energy is itself a conventional concept. The theory of its conservation expresses the belief or postulate that in all change there is a substance or something which remains constant.

The examination of the fundamental principles of science thus shows that mechanical explanation involves the elimination of time, change, and diversity. Cause and effect are the same. Nothing really changes. An examination of the concept of the *Unity of Matter* gives further illustration of the tendency of exact science to eliminate all differences. The reduction of matter to ether means making it equivalent to space. The one common feature of the different ethers is that they fill space. Ether is space. Rational mechanics treats phenomena as reversible. The *principle of Carnot*, that is, the second law of thermodynamics or the law of *Entropy*, involves the irre-

versibility of natural phenomena and thus comes into conflict with the law of causality as identity in time. The ultimate outcome of mechanism is the reduction of reality to the non-existent. The principle of Carnot, on the other hand, is more in accord with the empirical character of reality.

Mechanism fails to account for sensations. There is an unavoidable contradiction in this respect between the quantitative identity without qualitative diversity which the intellect seeks in science, and the qualitative diversity of sense perceptions. There is an irreducible irrationality in actual experience. This opposition of quantity and quality is further shown in the various attempts at non-mechanical explanations, in the qualitative theories of matter from Aristotle down through the Alchemists, and the *phlogiston*, *metallicity*, and other theories of modern chemistry, to Ostwald's theory of Energy. These qualitative theories have, however, proved relatively sterile in scientific investigation. Mechanism is a more complete and rigorous expression of the principle of identity, and the latter is the directing principle of science. Common sense supposes that sensations exist when they are not perceived, and, in its theories of material substance and causal explanation substitutes one type of sensation for another, for example, touch and movement for color and sound. The scientific doctrines of atomism, movement, mass, energy, etc., are simply more exact and rigorous applications of the principles of common sense thinking to phenomena. Professor Meyerson concludes that it is vain to seek to eliminate causal explanation from science. Positivism errs in confusing legality and causality and in making the latter only a case of the former.

Law and cause are both postulates or *a priori* principles of rational interpretation. There is a partial agreement or correspondence between thought and reality. The signal success of mechanism as a principle of explanation is proof that this agreement goes beyond mere legality. In part sense experience does submit to causal explanation. But the establishment of absolute identity of phenomena in time and space is blocked by two enigmas which science cannot unravel—transitive action and the irreducible diversity of sensations. In these respects reality is irrational. The principles of science are plausible and useful but not all-sufficient. Reality may transcend mechanism. Absolute identity in time, absolute quantitative constancy and uniformity may be only appearances. Nature may be subject to law, it may be orderly, and yet not be wholly explicable in terms of mechanism or causality. If nature were wholly intelligible, without any

irrational surd, all its diversity and changefulness would disappear in an abstract identity. We cannot, then, deduce from the postulate of legality the absolute persistence of a quantitatively identical substance in which all qualitative diversity is swallowed up.

I have given only a rapid and superficial survey of this solid and informing book. M. Meyerson's affinities will be obvious to readers of contemporary French thought. He especially mentions his indebtedness to Messieurs Boutroux, Bergson, Duhém and Poincaré. It is not possible in this review to enter into detailed criticism. I would, however, raise the question whether the conception of identity which M. Meyerson employs is really the one upon which all science proceeds. I am not ready to admit that this is the case. In any event I should hold that it is a onesided, and, hence, erroneous theory of identity. What the reason most significantly seeks is identity in difference, not abstract or equational identity, and the best types of scientific explanation are true to this principle. The true theory of identity was first broached by Plato, partially developed by Spinoza, more fully by Hegel, and among English writers has been most adequately stated by Bosanquet.

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Philosophische Abhandlungen, Hermann Cohen zum 70sten Geburtstag (4 Juli 1912) dargebracht. Berlin, Bruno Cassirer, 1912.—pp. vi, 359.

This book, consisting of twenty essays written in large part by former pupils of Professor Cohen, of Marburg, is an admirable act of piety. The dedication signed by Professor Natorp in the name of his fellow authors expresses clearly, what has come to be felt everywhere in the philosophical world, that there is indeed a Marburg School whose founder and leader is Hermann Cohen, a school united in its ideal of a system of philosophy and in its use of a philosophical method. To quote the words addressed to the leader: "Under especially difficult conditions not only have you maintained the study of philosophy at the university to which you have devoted nearly forty years of your life, but you have greatly advanced the cause of this study. Your own temperament and your regard for Plato led you from the beginning to adopt as your method of instruction the διαλέγεσθαι and so to found our philosophical seminar. In doing this you have erected for yourself a permanent memorial. Moreover, unintentionally yet of necessity, you have called into being a school of

philosophy, which you have done by holding to the method philosophy owes to Kant, by persistently perfecting this method, by constantly pointing out that it presupposes the systematic unity of all philosophical problems, and finally by ever fostering through your own example an unlimited freedom of criticism. And this school of philosophy may recognize you as its master all the more without prejudice in that, thanks to the individual responsibility you have known how to impress upon each of its members, it can never feel itself in intellectual bondage to you." As special evidence of this freedom the dedication calls attention to the very wide field and variety of the essays which follow, and proceeds: "On the other hand, this variety reveals all the more evidently the unity of aim and method in our work. Nevertheless, no unprejudiced critic will fail to remark, what we explicitly emphasize, our full awareness of standing everywhere only at the beginning of our work and of having still before us a tremendous undertaking. You, our leader, have dared and have rightly dared to give us a 'System of Philosophy.' But it would be far from your intent did we interpret this 'System' in the old meaning of a closed doctrinal edifice. Rather do we, and do you too, find the vitality of our school precisely in the fact that it does not recognize as its purpose the interpretation, popularization, and propaganda of a finished system but the carrying on to completion of the work begun, a work to be guided, it is true, by the Idea, which is the only meaning a system of philosophy may have for us, and which, though it fixes the direction of growth, does not kill the ever widening evolution of our problems."

This regulative Idea is evident as one reads the twenty essays, and it does give them a certain unity. Moreover, it does warrant the members of the Marburg School in regarding themselves as the successors of Kant and as still loyal to the spirit and almost to the letter of the major conclusions of his *Critique of Pure Reason*. But however stimulating to the authors all this may be, I fail to find in the book that Kantianism has any genuine positive value for the Marburg School other than its emotional and suggestive effect upon their *esprit de corps*. True, this Kantianism gives a transcendental idealistic (they call it critical idealistic) point of view and way of expression to their philosophical research; but the larger part of their research is essentially non-idealistic, and its results can be accepted by the realist as though it were the work of fellow realists. Indeed if the Marburg School would recognize in Plato rather than in Kant its real source of inspiration, it would be truer not only to fact but to its esteem for the

father of logic and to its interest in logical analysis. That is to say, the Marburg School should feel itself the successor of Kant the Platonist, not Kant the transcendental idealist; to Kant the student of the categories and regulative postulates of science, not to Kant the phenomenalist and psychologistic absolutist.

The twenty essays vary in subject matter from historical topics, such as "Kant's attitude toward the French Revolution," to topics in systematic philosophy, such as the "Intension and Extension of the Concept," and from topics in logic and metaphysics to topics in law, morals and esthetics. All are interesting, stimulating, and scholarly, and each merits discussion by a reviewer well informed in its special field. I find especially interesting the historical essays, "Das Kontinuitätsproblem bei Poncelet," by Gawronski, "Das Problem des Unendlichen und Renouviers 'Gesetz der Zahl,'" by Cassirer, "M. Faradays System der Natur und seine begrifflichen Grundlagen," by Buek, "Kants Stellung zur französischen Revolution," by Vorländer, and "Zu Herders Reisejournal," by Fritzsche.

Among the twenty essays it is a pleasure and an honor to find one by an American philosopher, Professor M. Phillips Mason. Mason's essay calls attention to two contemporary movements in Anglo-American philosophy, pragmatism and neo-realism. Its title is "Two Anti-idealistic Theories." To this essay it is fitting that an American reviewer should give especial attention.

The first part of Mason's essay is concerned with what I should call the extreme empiricism of James's theory of truth. "James avoids the ontological pit, but in doing so he seems to have robbed truth of all its stability. To make it clear that truth is a function relative to the facts of experience, and that that function is a method of handling the facts by means of ideas, is so far good; but not to develop the method of handling the facts, not to show what ideas are fundamental in controlling sense-data, is as good as to give us no theory of truth at all. He might be pardoned for developing his theory from a psychological point of view, if he said something about the content of true ideas. But for James one idea or group of ideas is as good as another, so long as it is successful in handling experience. He of course recognizes that some ideas are more fundamental than others, but he would treat such a relation as belonging to relations among ideas and only of consequence so far as it could with ideas be of use in controlling facts. He fails to see that certain ideas or relations are fundamental and necessary to the handling of all experience, and in consequence he fails to see also that there is a solid foundation to all

truth. For categories he has no use. He would never allow that the categories used in present-day science might not be supplanted by new ones as science advances; though it is a little hard to see how such categories as identity, unity and reciprocity could ever be dispensed with in handling experience. Logical and mathematical relations he admits to be eternal, but they are only eternal as 'relations among purely mental ideas.' They are none of them ever essential to experience. 'Such relations form a sphere which has no logical relation to experience. They are used to handle experience as a convenience, never as a necessity. Consequently James's theory of truth lacks unity."[1]

As I understand this statement, Mason is only pointing out the shortcoming of James's theory as felt by the critical idealist; he is not attempting to disprove the theory. Hence this is hardly the place to defend James's theory. I wish only to point out in turn that *as a realist* I believe James is largely in the right. I fail to see what is to be meant by "certain ideas or relations are necessary to the handling of experience," or again by "relations essential to experience," and finally by a "theory of truth lacking unity," unless we give these phrases meanings *presupposing either transcendental or absolute idealism.* James may have had far less respect for categories, logical constants and logically fundamental propositions than do neo-realists; but I do not see how *realists* can distinguish between truths and necessary truths, or presuppose that truth must have unity, or finally foretell what is and what is not essential to experience. Where it seems to me some realists at least differ from the pure experimentalism asserted in James's theory of truth is in believing that we can perceive some universal propositions to be true; *e. g.*, some of the propositions in logic and mathematics. This makes it possible for them to believe in the infallibility of logical and mathematical doctrine. If such realists are in error here I see no way for them to escape pure experimentalism and its extreme empiricism. Hence I should mean something different from what Mason does (if I understand him correctly) in saying, "If James's theory is lacking in logical foundation, the realistic movement in America may be characterized as fundamentally an appeal to logic." It is an appeal to logic but *not to a transcendental logic.* It is an appeal to logic but it can be an extreme empiricism.[2]

[1] S. 48.

[2] Perhaps I can make these statements clearer by referring to Natorp's first, or introductory chapter in his work, *Die logischen Grundlagen der exakten Wissenschaften.* I should agree with Natorp that the position of Aristotle and the extreme position of the Logistiker are untenable, but I fail to see that then transcendental

Mason turns from his exposition of James's theory of truth to discuss the external theory of relations as formulated in "The Program and First Platform of Six Realists" and to criticise the use of this theory in showing the independence of the object of knowledge from the mental process which knows the object. Since the 'Platform' was written, the external theory of relations has been formulated more precisely in an article[1] by Mr. Russell, and the realistic doctrine of independence has been treated more fully by Professor Perry.[2] Regarding the former matter Mason writes, "The theory on which the Realists base this contention,—the external theory of relations,—may be said to be good in so far as it makes the relations something over and above their terms. But if it means that a relation is so independent of its terms that it does not relate them, then the difficulty of bringing the relation and its terms into relation will give rise to an infinite regress. It is always dangerous to start with a number of independent entities and then try to relate them on the basis of their own natures. Russell has warded against this difficulty where he says: 'It may be urged, . . . that the assertion of a relation between the relation and the terms, though implied, is no part of the original proposition, and that a relating relation is distinguished from a relation in itself by the indefinable element of assertion which distinguishes a proposition from a concept.' In other words, do not start with the relation and the terms as separate entities, but with the relation as really relating the terms. A relation is a connection or a unity; it connects or unifies the terms. Still a mere unity or connection is nothing if it is not some kind of a connection. But the kind of relation must not then be identified with the fact that the relation relates: the relating as well as the kind of relation are both essential to relation. I should go even farther. I should maintain that the relating, the kind of relation and the terms all go to make up the relation."[3]

If I understand Mason aright in this passage, I think his point well taken. Where authorities see so confidently a difference between a

logic follows. There is another possible consequence, the one mentioned above, namely the direct perception of the truth of some propositions. This is, I admit, the Aristotelian doctrine, *but with an important addition which saves it.* By emphasizing the rôle played by the *perception of particular propositions* in disproving or verifying our working hypotheses it makes place for experimental science and, I believe, for all upon which Natorp insists. In short, it seems to me that genuine realism rejects transcendentalism altogether and has as its foundation *logic plus the premise, the truth of some propositions can be directly perceived.*

[1] *Journal of Phil., Psychol., etc.*, 1911, 8, p. 158.

[2] *The New Realism*, p. 99.

[3] S. 51 f.

relation *in abstracto* and the same relation where it relates I must speak with diffidence, but I fail to see the difference or feel the difficulty. In aRb I fail to see any infinite regress of relations enabling R to relate a and b. It seems to me either R is the relation between a and b or it is nonsense. Moreover, I see no difference between R alone and R in aRb, any more than I see a difference between a and a in aRb. A relation seems to be pictured by some thinkers as a chain, a cement or some other energy; or it is a coupling which has to be fastened to the unrelated terms in order to get them related. If I mistake not, all this is quite false. *There is no relating process.* The very central dogma of logic is, I believe, that the logical universe is absolutely static. That is to say, when we analyze a complex into its terms and relations all that is found in it are precisely terms and relations and nothing more. The logical universe contains as constants or ultimates neither time nor change. It is not a universe in which terms are *going into* or *out of* their relationships. What we call change is analyzed into a thoroughly static stysem in which, related to t^1, we have a different complex from that which we find related to t^2. In one complex aRb is true, in another aRb is false and we find instead aSb, but this does not mean a process of uncoupling and recoupling the a and the b. No more is this meant than it is meant, when we count in terms of integers, that we unrelate the integers for the time being from the remaining members of the system of real numbers. In short, I believe this difficulty comes from our mental imagery which puts kinesthetic ideas into logic. It seems to come also from the old idealistic error that all the relations between terms are given them by the mind. 'Thought is a relating process.' Realism denies this. The relations between terms are found, or discovered, and are essentially static and timeless. If I am right in holding these opinions, they should clear up the difficulty of some who feel that, sometimes at least, relations do alter the nature of the terms related. Such thinkers still regard change as an ultimate logical notion; whereas the timeless universe of logic has eternally in it all that it ever has, even the instants of time in their serial order.[1]

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[1] This should clear up also the expression entities "pass in and out of the cognitive relation" which is not rigorous and with which Mason has difficulty. The expression 'pass in and out' must be given the meaning realism finds in the notion 'change.'

The Christian View of the World. By GEORGE JOHN BLEWETT. New Haven, Yale University Press, 1912.—pp. xvi, 344.

Among the tasks that confront the present-day philosopher none is more important than that of re-thinking the principles of Christian theology in terms of modern thought. When a competent student of philosophy undertakes this task in an intelligent and thorough fashion the results are always worthy of our thoughtful attention. In the present work the scholarship of the author is at once apparent, and his skill in re-interpreting the doctrines of the old orthodoxy in the light of the new science and philosophy leads to results that seem important and interesting—although we may find ourselves unable to follow him through every step of his argument.

The plan of the book may be briefly indicated. In the first place the essential positions in the Christian view of the world are stated. These are represented as three: first, a spiritual monism, the belief that reality is a spiritual society, that of God and his children; second, a profound dualism created by the fact of sin and consisting of a conflict of wills between men and God; third, the reconciliation of these opposing principles in the thought of salvation. In the second place, the attempt is made to relate these fundamental Christian principles to the rational consciousness of the world. In the pursuance of this second undertaking, three subjects are considered: the Absolute Spirit as related to human experience; the place of nature with reference to God and man; the development of the human spirit from nature to God. It is this second main division of the author's undertaking that occupies the largest part of the work and has paramount interest for the reader.

In establishing the existence of an Absolute Spirit, Professor Blewett relies upon the Aristotelian argument of the necessary priority of actuality to potentiality in any process of development, holding that the potentiality of spiritual structure and achievement manifested in cosmic evolution proves the existence of a Universal Spiritual Ground, a personal God. Taking this initial step easily and confidently, he is confronted by a second question which he, no doubt correctly, regards as the real center of difficulty, that of relating the Absolute Spirit to free human individuality. For the solution of this problem he adopts the well-known argument used by all Absolute Idealists of the last century, from Hegel to Royce. Our experience is represented as, both in practical and theoretical spheres, a self-organizing process, whose aim is a completely organized life. Such a process requires for its explanation the existence of a perfectly organized and eternally complete consciousness. Assuming the existence of such an Absolute

Consciousness, the self-organizing principle of human individuality is comprehensible as the reproduction in time of such eternal reality, human experience having its source in the self-communicating activity of God.

Such argument will of course be met by doubts which have recently become general—doubts as to its adequacy to such facts as human freedom and initiative, the reality of evil, and the existence of a genuine evolution. It is fair to say that Professor Blewett evidently writes with a consciousness of recent criticisms of idealism in mind—particularly have William James's polemics impressed him. Moreover, he is to a degree successful in repelling such attacks. In the opinion of the reviewer his presentation of the argument for Absolute idealism is particularly effective; he is fluent and is able through his idealistic principle to correlate so many facts that his view gains a real vitality and concreteness which is itself a refutation of the charge that idealism is thin, poor, bankrupt. Still, difficulties remain which the author altogether fails to dispose of. For instance, the facts on which he dwells seem to prove that evolution is an organizing process and that human conduct and cognition are self-organizing activities. His inference that evolution has a goal, and that this goal is a perfectly organized and completely rational life, appears sound. But on the same grounds to infer that reality is a perfectly organized and eternally complete consciousness is a more questionable inference, and, in the face of other facts, one of doubtful validity. The familiar questions are bound to arise: What becomes of the reality of the temporal process of self-organization if all is completely realized in an eternal consciousness? Again, what reality can attach to man's supposed contributions to universal progress if he is merely reproducing an organizing process which is eternally accomplished—does not our life become a dumb show or, at best, a mechanical rehearsal? These are of course old difficulties, but the Absolute idealist must expect to have them sounded in his ears until he can furnish some more successful solution of them.

In his philosophy of nature Professor Blewett rejects both the deism which gives to the natural world an existence external to God and the 'immature' idealism which reduces it to a series of presentations. The true idealism, he holds, attributes reality to nature, the reality of a relation between man and God. Man's soul is the self-impartation of God and nature is the method and medium of that impartation. Hence we have the natural order with its long evolutionary process leading up to, and culminating in, man. But to one who thus regards nature as a revelation of spirit the problem of evil looms up as an

apparently insuperable difficulty. The author's acquaintance with, and use of, the results of modern evolutionary science gives special interest to his treatment of this problem. Understanding the operation of organic evolution with its necessary struggle and inevitable suffering, and the features of primitive human life, he is able to present the facts in a vivid and impressive way. These facts may rightfully claim a prominent place in any current philosophy of religion, since at present they constitute the most potent influence leading men to deny the presence of any supreme moral purpose in the world, or to believe that if such purpose exists it must be limited in its power and scope. Hence it seems hardly possible to over-emphasize the facts; we agree with the author when he holds that the difficulty with regard to sin lies not merely in the fact that for man creation involves the alternative between righteousness and sin, but that it involves that "alternative in such form that for man at the beginning of his life the chances are against him; alike in the individual and the race, his will takes on its habits and tendencies long before there can be any union in him of developed will with developed intelligence that has clear vision of the meaning of life and of its choices." How make God responsible for this injustice without detracting from His righteousness; how provide for the conflict and discord of sin in the completed harmony of the Absolute consciousness? We wonder if Professor Blewett's version of idealism furnishes any helpful suggestions toward a solution of this problem, but apparently it has thrown little light here. "There must be some divine necessity in it," he maintains, "the necessity of a divinely reasonable plan," and farther he does not attempt to go. May it not be more reasonable to admit that the divine will is limited by certain conditions under which it acts, and then inquire whether this limitation need interfere with its moral supremacy? With good reason the author holds that an essential part of the Christian solution of the problem of evil is given in the Christian theory of redemption. But here also we need, it would seem, more penetrating metaphysical analysis, and more thorough-going reformulation. Does not the source of evil lie in the conflict between parts and the whole, and particularly in the obligation laid upon the part of sacrificing its independence to the welfare of the whole? And may not the truth of the atonement consist in the complementary obligation of the whole to expend itself for the parts. Thus is suggested the idea of a God achieving His own unity through the overcoming of difference—the Christian doctrine of a striving, suffering God.

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NOTICES OF NEW BOOKS.

The Meaning of Evolution. By SAMUEL CHRISTIAN SCHMUCKER. New York, The Macmillan Co., 1913.—pp. 291. $1.50.

The First Principles of Evolution. By S. HERBERT. London, Adam and Charles Black, and New York, The Macmillan Co., 1913.—pp. 346. $2.

These are both interesting books, written by competent scientists, and well suited to introduce the ordinary reader to the scientific conception of evolution. Professor Schmucker gives an exceedingly simple and clear-cut exposition that would be intelligible and interesting to any secondary or normal school student or graduate who cares to know what biologists mean by evolution. He illustrates biological laws with the horse, the English sparrow, and other familiar types. The evolutionary controversies since Darwin are treated in a single chapter, just enough to show that advance has been made, and that differences of opinion exist; while the moral and religious questions that must inevitably trouble such a reader are sympathetically treated in the two concluding chapters.

Dr. Herbert's volume, while also popular in its appeal, is much profounder and more comprehensive. It will be hard for those who have not visited English university extension lecture courses, such as those given by the Workers' Educational Association, to believe that this scholarly work is "the outcome of a series of lectures given to a class of working-men and others." The Preface states that the author's purpose is "to present the problem of Evolution comprehensively in all its aspects . . . in a simple yet scientific manner." Under the head of "Inorganic Evolution" the rival nebular theories of La Place and Chamberlin, the epochs in geological evolution, radio-activity and the evolution of atoms, and the hypotheses as to the origin of life in relationship to matter are all tersely but clearly stated. More than half the volume is devoted to "Organic Evolution," and in this the writer follows Romanes in first discussing what are considered to be the established "facts of evolution" as regards morphology, embryology, classification, palæontology, and geographical distribution. Subsequently come the "theories of evolution," in which most space is devoted to Darwin and neo-Darwinians, but the positions of Lamarck and neo-Lamarckians, Mendel, De Vries, and others are also impartially stated. The third section of the book, "Super-organic Evolution," discusses mental evolution with reference to the behavior of lower organisms and the rise of instinct and intelligence, the evolution of morals and its relationship to ethics, the evolution of the family, the state, and religion. The book concludes with two chapters on the philosophy of evolution in which the metaphysical positions of Spencer and Bergson are unfortunately too briefly set forth to be of much aid to those not already

acquainted with them. Bibliographies of works best suited to the general reader who wishes to go further into the various topics are supplied.

In the fields in which the present reviewer feels at all competent to express an opinion, Dr. Herbert is familiar with the standard and recent authorities, and has reported the essential points lucidly and effectively. The general reader is introduced to the important controversial issues, and made to see why they are important, without being burdened with differences of merely technical interest. It is regrettable that the chapters on Spencer and Bergson were not expanded, and also that some reference was not made to the attempt of pragmatism to introduce the evolutionary standpoint into logic. The bibliographies seem in nearly all cases to be up to date, and well chosen. However, important recent and popular writers on the psychological evolution of religion, such as Leuba, Irving King, Ames, Marett, Farnell, Durkheim, and Lévy-Bruhl, are overlooked. Reference should also have been made to other American animal psychologists besides Thorndike and Jennings, the only two mentioned.

Each book is capital in its way. Of the two, Professor Schmucker's work is probably sufficiently advanced to meet the wants of American secondary and normal school students and graduates and others of the same cultural level; while Dr. Herbert's more advanced treatment is the more suitable as a reference book for undergraduates in introductory courses in philosophy who need to know a little of science in its larger evolutionary aspects, as well as for college graduates and other reasonably cultivated readers.

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The Distinction between Mind and Its Objects. The Adamson Lectures for 1913. With an Appendix. By BERNARD BOSANQUET. Manchester, The University Press; New York, Longmans, Green & Co., 1913.—pp. 73.

In this lecture Dr. Bosanquet discusses some of the fundamental positions of modern Realism, following in the main the form of that doctrine set forth by Professor Alexander. The Appendix is devoted to a brief consideration of one or two points in the volume by the six American authors entitled *The New Realism.*

The lecture emphasizes the fact that the modern type of Realism, in contrast with the older eclectic Materialism, groups primary and secondary qualities together as equally real, and thus gives us so far a solid or concrete reality. Even universals are transferred from the side of the mind to that of the object. The objective order thus appears as full-rounded and complete, capable of being thought as in itself self-existent. Realism cannot, however, be said to be entirely successful in transferring all the objective elements of experience to the physical side. It still feels obliged to separate what Dr. Bosanquet calls the tertiary qualities of reality—*e. g.*, its æsthetic aspects—from the primary and secondary, and to assign them to mind. This seems to indicate a defect of the method: "It proves that in the end there is no realism

that can be completely solid and thorough; that is to say, that can sweep all characters of things which are on the same level of objectivity, into the mass of non-mental reality" (p. 23).

Notwithstanding this lack of entire completeness, the physical reality has been so richly endowed at the expense of mind that "it by inherent necessity shows signs of life, and begins to exhibit within itself a vitality, primarily logical, but, for that reason, ultimately and in essence involving continuity within a psychical system" (p. 26). If everything of value could be attributed to a self-existing physical reality, the idealist would not in the least object to it merely on the ground that it is 'physical,' rather than 'psychical.' He is not concerned to defend Mentalism. "The question as stated in terms of Mentalism seems to be wholly beside the point of mind's relation to its objects" (p. 42). What the idealist asserts is that objects, taken by themselves, are essentially fragmentary and do not form wholes. "No world can be synthetic in itself, that is, can possess universals as a part of its own nature, if its elements have not, pervading them, the living *nexus* and endeavor towards a whole which indicates participation in the nature of minds" (p. 35). Dr. Bosanquet develops this point with great clearness, showing by analysis the *positive* grounds for holding the continuous nature of the mind and the object. The argument for Idealism is not, as has been supposed, an external or inductive argument based on the impossibility of finding a case of an object without a subject. "Whether a certain object is continuous with the nature of mind is no question of mere origin or concomitant variation; it is a question of what sort of thing the object is, and what sort of thing mind is, and whether or no one is connected with the other by inherent character" (p. 31). It is to be hoped that our realists will profit by Dr. Bosanquet's emphatic statements on this point, so that, ceasing to waste their strength on a mistaken issue, they may take up fairly the classical arguments upon which Idealism has always relied. The real points at issue concern the adequacy of the doctrine of 'external relations' and of the method of abstraction which that doctrine involves. Dr. Bosanquet maintains that the purpose that modern Realism has in view, that of establishing the complete objective reality of experience, leads in a direction opposite to that which has been taken by many of its adherents. "Continuity of the real world with mind seems to me the inevitable goal and climax of twentieth century physical realism, as opposed to eclectic materialism. If the object is to be real in its fulness, as it is the merit of that doctrine to affirm, it must be maintained in connection with its complete conditions. To try and hypostatize it apart from organisms with their minds is in my judgment an evasion of the task laid upon us by the arduousness of reality. Reality, I urge, is always on ahead, where the fuller conditions are focused. Abstraction is abandonment of the quest" (p. 49).

In the few pages of Appendix devoted to *The New Realism* Dr. Bosanquet states very frankly his conviction "that in questions of first principles, they [the authors of the volume] have not really made their own the standpoint and intention of modern metaphysical theory" (p. 52). He illustrates this

contention briefly by pointing to the fundamental misconception shown by the volume in respect to the position of the English neo-Hegelians regarding Epistemology, and by a criticism of the inconsistencies involved in the doctrine of 'Logical Priority' set forth in the volume. I am unable to give here the details of this criticism, which it would be necessary to quote in full in order to make clear the points at issue. As is well known, however, substantially the same charge of lack of acquaintance with historical theories of philosophy that Dr. Bosanquet brings against the authors of *The New Realism* has been made also by other critics of their doctrine.

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Some Influences in Modern Philosophic Thought. Being the Fifth Series of the John Calvin McNair Lectures Before the University of North Carolina. By ARTHUR TWINING HADLEY. New Haven, Yale University Press; London, Henry Frowde, 1913.—pp. iv, 146.

This volume has the following divisions: I, "General Nature of the Course"; II, "Changed Conceptions of Science"; III, "New Views of Politics and Ethics"; IV, "The Spiritual Basis of Recent Poetry"; Appendix I, "On the Meaning of the Term Philosophy"; Appendix II, "The Influence of Charles Darwin on Historical and Political Science."

President Hadley states the purpose of his lectures in the following sentences: "I shall try to tell as well as I can in so short a space some of the things that happened in the world of science and the world of politics which made people crave a different sort of explanation of the universe at the end of the century from that which satisfied most of them at the beginning. I hope by so doing to help some of you to understand more fully than you have done the real significance of these events, and to assist you in some slight degree in working out your own philosophy of life by setting forth some facts which have influenced the beliefs of thinking men of recent generations."

It would be unreasonable to expect a very profound treatment of so large a subject in such a brief compass. All that it was possible for the lecturer to do was to select as he did certain fundamental movements of the period with which he was dealing, and to treat them in a somewhat summary and general fashion. As a popular presentation of the subject, these lectures are not without merit. They are clearly and simply written, and are free from all pretense and cant. Moreover, they possess the genuine human interest that always attaches to the frank utterances of a man of intelligence and culture. But, even as a summary treatment of the subjects set forth in the chapter headings, the lectures must be regarded as disappointing. It is evident that President Hadley did not make any serious effort to come to close quarters with his subject, and many of his generalizations are so vague and indefinite that they may mean almost anything, and are accordingly just as much false as true. One might illustrate this by reference to President Hadley's statements regarding the relation of the individual and the group

in regard to morality, and by the statement that Pragmatism is essentially a development of Morley's doctrine of toleration. Again, the philosophy of Darwinism is somehow vaguely identified with Pragmatism, and both are summed up in the *laissez faire* doctrine propounded by Gamaliel in the fifth chapter of the Acts of the Apostles. President Hadley has no eye for underlying spiritual forces, or for any problems of the individual life. The group is emphasized at the expense of the individual, and morality is looked at merely from the point of view of its survival value, both its aspect as an affair of the individual life and its mission as a program of social transformation being ignored. President Hadley follows Burke in belittling logic and reason as guides of life, and in exalting the importance of instinct and tradition. "We hold the beliefs that have preserved our fathers. It is not far from the truth to say that we hold them because they have preserved our fathers. I do not mean that we should consciously adopt a belief because it is useful to us, . . . I would rather take the ground that we hold the beliefs that have preserved our fathers as an intuition and act on it as an instinct" (p. 73).

The same tendency to rest in superficial statements of half truths is illustrated in the lecture on "The Spiritual Basis of Recent Poetry." The importance of vitality and struggle are emphasized at the expense of light and reason, loyalty and emotion are made superior to intelligence. Browning and Kipling are for President Hadley the spiritual prophets of the time. It is not quite clear how this apotheosis of individual striving and effort on the part of the individual is to be reconciled with the conservatism of his political and social theories. But the most striking feature of the treatment of poetry, as indeed of the whole discussion of 'philosophic influences,' is the constant depreciation, sometimes implicit and sometimes explicit, of rationality. Instinct and effort undoubtedly have a value as elements and forces in human life and society, but they must not be emphasized at the expense of reason. It is surely true that there can be no real social progress which does not involve the persistent effort on the part of individuals to attain to clearness of intellectual vision. No adventure that is genuinely spiritual is merely centrifugal: it must at the same time seek the center and be a quest for light and rational illumination. It is undoubtedly necessary to supplement the Socratic doctrine that virtue is knowledge by taking account of other elements of human nature than the merely intellectual; but it still remains true that virtue, both in the individual and in society, must include as an essential element the pursuit of knowledge and enlightenment. Without this element there can be no adventure that has any claim to be called either spiritual or human. Summarily to set aside as superseded the poets and philosophers who stand for reason and enlightenment, as President Hadley seems to do, is to renounce the spiritual heritage of civilization and set one's face in the direction of barbarism.

J. E. C.

CORNELL UNIVERSITY.

Enjoyment of Poetry. By MAX EASTMAN. New York, Charles Scribner's Sons, 1913.—pp. xii, 224.

It is hard to do justice to a book on poetry by a writer who has something more than good intentions—who has natural ability and a discursive interest in people and things—and yet one who has neither the sure insight of a first-rate poet nor the severe training of a scholar. Under his curtailed title (it wants either a 'My' or a 'The'), *Enjoyment of Poetry*, Mr. Eastman has brought together fifteen chapters on topics like these: "Poetic People"—as contrasted with scientific or practical folk; "The Technique of Poetic Names"; "Wine and Sleep and Poetry"; "Poetry Itself"; and, finally, "The Practical Value of Poetry." The book rather concerns itself with matters of diction and metre, and similar details of expression, than with questions touching the organic structure of artistic wholes, or the effect of an entire poem as dependent upon the right selection of details both great and small. Individual passages throughout the work are suggestive, and some of the naïve observations are acute. But their value is not increased by such remarks as the following (p. 179): "No clear account of the nature of poetic rhythm has ever been given"; the implication of the context being that a clear account is now, for the first time, to be had in Chapter 14. There is, however, no indication that that author is well acquainted with the literature on rhythm. And the truth is, one may find a more satisfactory account in Bücher's *Arbeit und Rhythmus*, not to speak of investigations like Dr. Bridges' into the prosody of Milton. The Poet Laureate happens to be one of those who, like Milton himself, have not disdained the laws of prosody, or the labor involved in studying and applying them. "Remember that you are engendering and sustaining in the mind a flow of waves," says Mr. Eastman (p. 188), "and you will need no laws of prosody." "If you write more blank verse," said Wordsworth to a correspondent, "pay particular attention to your versification, especially as to the pauses on the first, second, third, eighth, and ninth syllables. These pauses should never be introduced for convenience, and not often for the sake of variety merely, but for some special effect of harmony or emphasis."

Throughout the book we trace the common, perhaps one must say vulgar, error of supposing that rigorous investigation is inimical to the artistic spirit. Milton did not find it so, nor Dante, nor Leonardo; modern linguistic study goes back to Dante, the study in general, to Plato; the philology of the present day, taking the term in its broader sense, begins with Petrarch. "As usually taught for three years to post-graduates in our universities," thinks Mr. Eastman (p. vi), the scientific study of literature "is not worth spending three weeks upon." So far as I have observed, this is not the verdict of the best among those who have had the experience. As to the average, if we are to judge by that, we must condemn not only the average scholar as a pedant, the average physician as a quack, and the average lawyer as a pettifogger, but the average book on poetry as sentimental trash. That is too severe an indictment to bring against the present volume. Yet one wishes the author had been able to profit by the training he affects to despise. At its worst it

cannot hurt a real genius. In the average case it probably would save a writer from misquoting Milton, who said (p. 34), not 'effulgence,' but

Bright *effluence* of bright essence increate.

At its best it might help the student to see the relation of this line to its context and the relation of both to the structure and meaning of *Paradise Lost* as a whole. Mr. Eastman's affinity is Whitman, and not Milton.

The value of the book mainly lies in the illustrative passages and the remarks concerning them; the author in his time has published verse of his own; he now shows what he enjoys in his favorite poets, and why he enjoys it. The average reader will like his book. Dry-as-dust would like it better if it had an index.

LANE COOPER.

CORNELL UNIVERSITY.

The Ethical Approach to Theism. By G. F. BARBOUR. Edinburgh and London, Wm. Blackwood and Sons, 1913.—pp. vi, 115.

In the pages of this essay we have a forcible and persuasive statement of the moral argument for the existence of God. The author insists that genuine theism has always been *selective* in its method, choosing the best in the world of human experience and identifying it with the divine principle. He notes that in the last century the scientific demand for impartiality and comprehensiveness led to the abandonment of the selective for the *synoptic* principle in the philosophy of religion: the argument proceeding from a survey of all the facts of experience to an Absolute Mind capable of including them, thus identifying God with the object of widest knowledge rather than of highest value. The author does not pause to criticise this view, which he regards as pantheistic rather than theistic; he merely mentions its incapacity for dealing with the problem of error, or of the relation of finite to infinite mind. Instead, he endeavors to meet the objection that the selective procedure of theism is subjective and arbitrary. A justification is found for it, according to his view, in the principle of development which does not hold the facts of existence upon the same level, but distinguishes higher from lower, and thus justifies us in thinking that the former give us a truer insight into Reality. Now the highest grade of existence is the ethical. Moreover, it is just this aspect of our experience which is freest from subjectivity and arbitrariness, since the universality of moral obligation makes it binding equally upon all human individuals, and its absoluteness suggests that it is grounded in the nature of Reality. Indeed, the demand for Absolute Perfection points to the objectivity of such perfection and to its unique place in the universe as a whole. One is constrained to admit the cogency of the reasoning by which the author defends his fundamental position that theism is selective in its method and that the most convincing argument for the existence of God is drawn from the facts of moral experience, yet one may wish that he had considered more fully the consequences of this view. What will he say of the lower grades of existence, the less worthy aspects of experience? It is no longer possible after the manner of the

old theology to charge all of these to man's sinful will. Either they too must have their source in the Divine nature and by so much lessen its perfection, or else they must be regarded as possessing an independent existence and thus limiting the Divine Will. Choosing the latter alternative, our theism takes the form of belief in a Conditioned Purpose manifesting itself in universal evolution, a view which seems to be gaining increasing acceptance today.

HENRY W. WRIGHT.

LAKE FOREST COLLEGE.

A First Course in Philosophy. By JOHN E. RUSSELL. New York, Henry Holt and Co., 1913.—pp. viii, 302.

How can we best introduce the student to the study of philosophy? Through ethics, logic, the history of philosophy, or through a general introductory course in philosophy. When the student is able to take only a little philosophy, perhaps but one course, the problem becomes insistent. Many teachers of philosophy find that the needs of the average student demand that they offer a course in "Introduction to Philosophy." To such teachers Professor Russell's book will be of substantial value.

It is clearly written. The discussion is as free as possible from technical philosophical terminology. It is fairly written. No philosophical bugbears are held up before the student. For example, the discussion of materialism is as sympathetically written as any part of the book. Professor Russell does not give the impression of championing any particular philosophical system but of endeavoring to present in unbiased manner the leading theories of the nature of reality and of the nature of knowledge.

The method of the book is not formal or rigidly systematic, but dialectical. The discussions do not lead to some predetermined solution. Indeed, for the most part, the arguments are not closed in definitive form. The book suggests problems, and to some extent, solutions, for both student and instructor, but does not try to take the place, either of the student's own reflection or of the independent and constructive work of the instructor. The book does not consist of a body of material for the student to commit and for the instructor to question upon. It is rather a tool for the teacher to use freely.

One of the most valuable features of the book is that it does not try to cover the whole field of philosophical thought. Professor Russell's object has been to stimulate the student to form habits of philosophical thinking rather than to acquire a smattering of all the manifold 'isms' which the history of philosophical thought presents. If philosophy is a view of life and a way of life, and if the purpose of philosophical study is to train the student in the habit of correlating the various phases of his knowledge and in seriously reflecting upon his life's meaning, Professor Russell's method is fundamentally sound.

The main body of the book falls into three parts: Part I, "The Problem of Reality"; Part II, "Epistemology"; and Part III, "The Problems of Conduct." In this last part, some of the central problems of ethics and religion

are treated. The discussion is suggestive throughout, though most readers will feel disposed to question the presentation of some philosophical positions. For instance, the writer of this notice doubts if modern idealism can be most favorably presented through reference to Berkeleyan sensationalism and to those aspects of Royce's theory which Professor Russell makes use of. The especial merit of the book, is, however, that no matter how much or how little a teacher may have in common with the position of the author, he can use the text with profit as the basis of class discussion.

An unfortunately large number of typographical errors is to be found in the book.

J. R. TUTTLE.

ELMIRA COLLEGE.

The Principles of Science. By WILLIAM FORBES COOLEY. New York, Henry Holt and Company, 1912.—pp. iv, 245.

The present work is an "attempt to bridge the chasm, which—at least for undergraduates—too often lies between scientific and philosophical studies" (Preface). It presupposes a passing acquaintance with the principles of science, and preferably the customary course in logic as well, though the latter is not indispensable. Building upon these, it aims, by an exposition and criticism of some of the fundamental processes of science, to lead the student by natural steps to questions of philosophy, which are regarded as lying just beyond the field of science. The book is divided into three parts which deal, respectively, with the Methods, Results, and Basal Principles of scientific thought. In the first part, the author discusses the nature of scientific knowledge, its relation to philosophy, the part played by analysis and synthesis in thought, the dangers which attend mental constructions, the methods by which these may be minimized, and the criteria of truth; in the second, the concepts matter, energy, mechanism, law, value, and evolution are treated; while the third part is devoted to a discussion of the postulates of thought, especially the postulates of rationality and external existence. Well selected exercises appear at the end of each chapter, and add materially to the worth of the book for class-room purposes.

The above program is executed with clearness and vigor. Teachers who believe, with Dr. Cooley, that a criticism of scientific method and results is now a necessary, and possibly the best, approach to philosophy—and the number seems to be increasing rapidly—will find much here that will meet with their approval. At the same time, to many, the value of the book as an introduction to philosophy will be seriously impaired by the conception of that subject which appears in its pages, and which dominates the treatment of much of its material. Philosophy is regarded by its author as merely the uncertain portion of knowledge—"the penumbra, not the strongly lighted part of the domain of science" (p. 12). It is but the "scout of science, ranging the borderland of knowledge" (*Ibid.*). Philosophy then, according to this notion, has no real problems of its own, no dependable contributions to make to

thought. Holding such a view of the subject with which he aims to acquaint the student, it is inevitable that Dr. Cooley should present his material entirely from the familiar common-sense and scientific standpoints, and thus, in the eyes of many of his colleagues, fail to introduce them to philosophy at all. Here, in the opinion of many, is where the work misses its greatest opportunity. Had this same material been set forth from some current and well-defined philosophical standpoint, the book would possibly have gained both in breadth and freshness of treatment, and, in addition, have lived up more nearly to its admirable aim—that of introducing the undergraduate in a natural way to philosophical conceptions.

A. H. JONES.

BROWN UNIVERSITY.

On the Consciousness of the Universal and the Individual. A Contribution to the Phenomenology of the Thought Processes. By FRANCIS AVELING. London, Macmillan and Co., 1912.—pp. vii, 255.

The present volume, as the sub-title indicates, is presented as a psychological study. The book is divided into two parts. Part I, entitled "Historical Introduction," is a brief statement of the historical treatment of the problem of universals. In the words of the author: "This part is written from a frankly selective stand-point, and is in no sense to be considered an exhaustive, or even a complete statement of the history of the subject. Its main object is to provide a point of view which we wish to adopt in the subsequent treatment of the experimental data afforded by our research; and for this purpose it is given as a suitable introduction to the main part of our essay" (Preface, p. vii, note 1). Of the three sections of Part I, Section III, which deals with the present status of the problem of universals in contemporary psychology, more nearly serves the purpose which the author has assigned for Part I than does either of the other sections. Section I, "The Problem of the 'Universals' from Plato to the Rennaissance," and Section II, "The Problem of the 'Universals' from the Rennaissance to the Present Day, both interesting enough in themselves, seem to have but little bearing on the study of the "Phenomenology of the Thought Processes" except in so far as these sections indicate the steps by which modern psychology became disentangled from metaphysical or logical questions and methods. The metaphysicians and logicians of the remote past have relatively little, or nothing at all, to contribute toward the solution of a problem which has had a distinctly modern origin and for the solution of which we have adopted a method of a highly technical character. Therefore, in tracing the problem of 'Universals' with our author through what he calls the three main periods—"the metaphysical, the epistemological, and the psychological" (p. 3)—it would be a mistake to suppose that the later periods have supplanted the earlier, or that the metaphysical or logical question can be answered by 'experimental psychology.' Present-day philosophy may well be suspicious of attempts to divide the history of thought into precise stages of interest, after the manner of Comte. It is safer to treat the so-called stages as persistent, if somewhat divergent, lines of human interest.

In Part II, entitled "The Research," we find the author's positive contribution to the experimental study of the thought processes. The central problem which he sets for solution is, "What is discoverable in consciousness when we think, for example, 'man,' 'this man,' 'all men'? Are there any constantly different factors which determine these three thoughts; and, if so, in what does their distinction lie?" (p. 75). To answer this question the observers were required to connect artificially selected groups of simple pictures with corresponding nonsense words of two syllables. During this process of learning the new symbols and content the typical stages of learning are closely approximated and the observers recorded careful introspections. The general conclusion reached is that the concept may appear unaccompanied by any image or nascent image (p. 132). "It is undoubtedly true," says the author, "that there was a tendency towards the reproduction of imagery—principally visual— in our experiments; indeed (as the character of our material and task should have led us to expect) imagery was reproduced with great frequency" (p. 132). Notwithstanding this fact, distinct cases of thinking without images were reported by the observers. To the charge of those who oppose the theory of imageless thought that the absence of images in introspection may be due to incomplete introspection, the author replies that his observers were perfectly well able to distinguish the concept with, from the concept without, images. "We maintain," he says, "that sufficient conscious data are observable to support our contention that concepts must be recognised as mental elements irreducible to imagery in any form" (p. 136). He believes, moreover, that such concepts are the true bearers of meaning in thought, and that "thought sequences obtain mainly between conceptual contents" (p. 148), and that "Where images are revived as contents, in so far as they may be considered as purely sensorial, they are revived by reason of a conceptual element, in virtue of which alone they can become present to consciousness as images" (p. 153). All would probably agree that thought deals with meaning and that no image is itself a meaning (see p. 156), but it is difficult to see how the explanation of thought can be furthered by recourse to another element. The real difficulty seems to be one of synthesis. Thought may be very different from a mere sum of elements without supposing it to depend on *another* element, for after we have set up the thought element, as our author does, the problem of dynamic organization or synthesis still remains as troublesome as ever. Thought is more than an addition of parts not because there is another part, but because it lives.

In spite of certain theoretical difficulties which the author has not wholly avoided, the study is a profitable one. The actual results of the experimental work are a permanent contribution to the discussion, and will not be neglected by later investigators. The usefulness of the book is increased by a good bibliography—a virtue partly offset, however, by the lack of an index.

H. G. TOWNSEND.

CENTRAL COLLEGE,
FAYETTE, MO.

Anmerkungen zur Grundwissenschaft. Von JOHANNES REHMKE. Leipzig, J. A. Barth, 1913.—pp. 131.

This work is supplementary to the author's *Philosophie als Grundwissenschaft* (Frankfort, 1910) and professes to be an explanation and completion of it. The concept of the individual (Einzelwesen) is analyzed at great length and related to various other fundamental concepts such as identity, process, activity, consciousness, subject, thing, and place. Unfortunately, the reviewer has been unable to obtain access to the earlier work and in consequence the significance of some of the author's analyses escape him. Professor Rehmke is a master of dialectic, but without a conviction of the truth of the facts upon which his reasonings rest, especially when he is discussing the relations of consciousness and its activities to the organism, he is necessarily unconvincing in his repeated claims that "the logical analysis of the individual is the key to the world" (pp. 31, 67).

Chapter I establishes the concept of the individual in relation to the concepts of similarity and identity. The most interesting conclusions are that the place of a thing always belongs to its individuality, that there can be no unchanging individuals, and that things cannot be composed synthetically. From the first of these it follows that what are usually called things are but moments in the existence of a transcending individual to which the things, now here and then there, belong as momentary determinations. But the individual is not made up synthetically of these momentary conditions. Synthesis is a result of looking backwards (*Ruckwärtsschauen*) and not of groping forwards (*Vorwärtstasten*) (p. 25). "Heraclitus' πάντα ῥεῖ is in so far right as it absolutely denies permanence to all individuals in the world as a determination: it is false, however, when it denies change to all individuals as a determination, as when he says, All, *i. e.*, all individuals, are in the flux" (p. 28).

Chapter II deals with individuals and process. The main thesis is that individuals alone change. The individual is a time-filled unity which shows variation in itself but is not itself a variable. In man there are distinguishable two sorts of individuals, soul and body, of which he is the "*Wirkungseinheit.*" Process is nothing but a variation in an individual conceived as a particular temporal unity (p. 51). It is therefore wrong to think of conscious process as a variation within a variable soul or consciousness. A type of erroneous psychology arises from failing to note this; the psychology of Wundt, the "soulless" psychology. Such psychology is doomed to be forever unintelligible, for "without the individual (*Einzelwesen*), soul, presupposed, the words 'mental process' lack scientific justification" (p. 56). Its string of states lacks an unity.

Chapter III is entitled "Individuals and Activity." "Whatever in the world is not individual, or the effective unity (*Wirkenseinheit*) of individuals, cannot be conceived in its place and connections, if the individual to which it belongs or pertains is overlooked or put aside as dispensable" (p. 67). Consequently, as activity always pertains to individuals, we are led to seek the individual.

For pre-scientific thinking this is always consciousness. At the moment of operating we find that consciousness knows itself not merely as given only at this moment but also as an individual to which belong other moments beside this moment. Therefore consciousness knows itself at this moment as the activity of itself, *i. e.*, as a self-knowing individual (p. 73). Its activity is will, but consciousness must not be thought to change in its willing. To produce is only to condition an appearing variation. Will is such a producing by consciousness, the condition of an individual relating itself causally to a represented variation. Consciousness cannot bring about its own variations in the sense that A produces or causes B. Such effecting demands at least two individuals; man, being an effective unity of soul and body, two individuals, seems to produce such effects in himself.

Chapter IV, on Consciousness and Subject, Thing and Place, eliminates the false connotations of a subject as an individual by showing its origin in the misinterpretation of the situation "I am *a* perceiving, *a* feeling, *a* thinking" as "I perceive, feel, think." In this chapter Professor Rehmke also returns to his problem of spacial conditioning, and distinguishes with much subtlity quantity, form, and place as "thing-conditions" more primary than mere position. Zeno's difficulties are explained as the result of confusing things and places. His conclusions were right as meaning that one place-thing cannot pass into another place-thing. Motion is really a change of a thing with respect to its place-determinations, *i. e.*, a change of place-determinations (p. 119). Similarly, a line, as a continuum, cannot be conceived as a series of points for this is contradicted by the very conception of "continuum." Furthermore, just as every place has its location-determination so every movement has its direction-determination. And, finally, things are not infinitely divisible, but this is not because simple things have not quantity as a determination, but because they are not unitary effects (*Wirkenseinheit*).

H. C. BROWN.

COLUMBIA UNIVERSITY.

Das Ich als Dolmetsch für die Erkenntnis des Nicht-Ich. Von H. G. OPITZ. Berlin, Leonhard Simion Nf., 1913.—pp. 42.

This monograph, which forms the seventh volume of the *Bibliothek für Philosophie*, undertakes to answer the question how a knowledge of the external world is possible. The author draws a distinction between the psychological and metaphysical aspects of the problem of knowledge, giving over to the field of psychology the treatment of the process of knowledge as such, while retaining for the metaphysician the problem of the relation between the process of knowledge and its object. It is this latter problem with which he himself is concerned, his particular interest being to determine what are the presuppositions of the knowing relation between subject and object. The answer which he gives to this question is that "we somehow bring the external world into relation to the ego," and that it is only in so far as we are successful in this that knowledge of the external world by us is possible (p. 19). Later, in sum-

ming up his position, he says that an *immediate* knowledge of the external world is impossible, that "this knowledge is only possible through carrying over to the external world the counterpart (*Erscheinung*) of our ego (*Ich*)"; in other words, it is necessary for us to *anthropomorphize* the external world before we can know it (p. 41). Such is the presupposition of knowledge.

It is not very easy to see why this doctrine, if carried to its logical conclusion, would not land us in the same predicament in which Berkeley found himself. Indeed, if meaning is put into the metaphors used, it is not easy to see that the theory differs essentially from Berkeley's. One cannot but wonder how, if we must know only through the objectification of the ego, we can ever know anything but the ego. Of course it is necessary for us to anthropomorphize, we must create the world after our own image; but to insist that this anthropomorphizing tendency is the logical presupposition of the knowing process seems to leave us suspended in the air catching at straws. It would seem that, if we insist that all we have to start with is the *Ich*, then the *Ich* is all we have when we end our speculations. But perhaps the author will clear up some of these difficulties in a later discussion.

G. W. CUNNINGHAM.

MIDDLEBURY COLLEGE.

Wilhelm Wundts Stellung zur Erkenntnistheorie Kants. Von Dr. WILLI NEF. Berlin, Leonhard Simion Nf., 1913.—pp. 47.

In current philosophical literature, Wundt's epistemological theory has not received the consideration that it deserves. The explanation of this, in the opinion of the author of the present monograph, is probably to be found in the fact that Wundt has not followed the usual custom of taking Kant as his point of departure. It seems appropriate, therefore, in order that those who overlook or misunderstand Wundt's doctrines may get a clear notion of them, to compare his epistemology with that of Kant. This service to the Wundtian theory of knowledge Dr. Nef undertakes. In the present work, which is the sixth volume of the *Bibliothek für Philosophie*, the author devotes himself exclusively to the historical problem of indicating the relation between the epistemology of Wundt and that of the Königsberg philosopher. The critical discussion of problems here raised the author reserves for future consideration.

The monograph opens with a short review of Wundt's general epistemological standpoint and a statement of Wundt's view of Kant's historical position. The body of the essay deals with the following problems: subject and object; the forms of intuition, space and time; and the fundamental concepts of the understanding, universality, substance, causality, and purpose. The pamphlet concludes with a brief discussion of the *Ding-an-sich*.

G. W. CUNNINGHAM.

MIDDLEBURY COLLEGE.

La philosophie et la sociologie d'Alfred Fouillée. Par AUGUSTIN GUYAU. Paris, Librairie Félix Alcan, 1913.—pp. xix, 240.

This admirable introduction to the writings of Alfred Fouillée presents the method, development, and influence of the philosophy *des idées-forces.* The numerous citations from hitherto unpublished fragments, lend unusual interest to M. Guyau's exposition and analysis. Besides the brief introduction, containing biographical details, the book has three divisions. Part One, comprising ten of the twenty chapters in the volume, is entitled *La philosophie des idées-forces,* and necessarily suggests much of the material used again in the second and third parts, *Sociologie des idées-forces,* and *Cosmologie et religion des idées-forces.* Of the four chapters in the third part, two are given up to a general conclusion and summary of the entire book. M. Guyau points out that the life-work of Fouillée was "to show by what sort of evolution reality tends, in man, toward the conception of ideas which surpass reality, and how these ideas, once conceived and desired, become forces in reality, and thus make it surpass itself" (p. 3). By *idée-force* Fouillée means "the inherence of causal energy in the life of consciousness," and also the inherence of consciousness or sub-consciousness in all reality.

Fouillée's method, briefly stated, is one of synthesis and reconciliation of opposites. Platonism and evolutionism are reconciled by regarding ideas as forces and evolution as psychical. The dualism between intelligence and will is replaced by a monism, immanent in form, which furnishes a decisive refutation of epi-phenomenalism. The idea constitutes a mean term for knowledge and for practice. Intelligence involves will, just as will involves intelligence. Evolution is 'flexible' and *novatrice* because it is an indivisibly living and intelligent self-determination. It does not result from an unintelligible *élan vital,* but from an *appetition vitale.* "All cause is life, all life is will, and all will involves intelligence" (p. 25). M. Guyau reminds us that the term *universelle intelligibilité* was introduced into French philosophy by Fouillée in his *Philosophie de Platon* (1869). Its complement is the principle of *universelle amabilité.* The two together achieve a synthesis of universal intellectualism and universal voluntarism which finds its best expression in "goodness." "All will is at bottom good-will" (p. 33), because will is inseparable from intelligence. "To comprehend means to sympathize—and that is already to love" (p. 32). Besides this intellectual altruism, Fouillée's ethical works furnish us with a hierarchy of values, and with a conception of a 'persuasive ideal' to be substituted for the categorical imperative. The question of freedom receives thorough analysis in *La liberté et la déterminisme,* the result being a reconciliation of the two conceptions. Determinism is reduced to a flexible, living, and progressive body of laws which includes not only the mechanical, the physical, and the physiological, but also the psychical. Freedom is affirmed as possible and real, by an act of will, not by empirical nor by *a priori* demonstration. M. Guyau points out Fouillée's anticipation of some of the doctrines of Bergson, and offers a suggestive comparison of their fundamentally different conclusions. The relation of Fouillée to other contemporary philosophers is also discussed with much clearness and insight.

The second and third parts may be regarded as merely pointing out the application of the doctrines presented in the first part of the book. The debt of sociology to Fouillée is briefly summed up by M. Guyau as follows: "(1) The conception of society—as a contractual organism, in which idea-forces, *ideas*, become an essential element of the social dynamics, and the *collective auto-determinism* permits a perpetual progress of the whole; (2) the increase of *solidarity* by means of the idea of implicit contract or of quasi-contract; (3) the great theory of *reparative justice*, which dominates all social systems; (4) the application of idea-forces to history and the subordination of historical materialism to an historical *idealism* which becomes more and more true in proportion to the more intellectual life lived by society" (p. 232). Fouillée's sociological studies lead to the works in the psychology of peoples, chiefly the *Psychologie du peuple français*, *France au point de vue moral*, and the *Esquisse d'une psychologie des peuples européens*. In this field Fouillée wrote the first comprehensive work, and no other writer has made a more penetrating and faithful study of his nation. The general conclusion of the final chapter is one in which all readers of M. Guyau's book must agree: "As metaphysician, psychologist, moralist, educator, and sociologist, Fouillée was an 'integral' philosopher. His doctrine of idea-forces is one . . . which considers nothing that is intelligible or active as foreign to it" (p. 238).

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The following books also have been received:

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SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; 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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Riviste di Filosofia e Scienze Affini; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftiche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

The Philosophical Importance of Mathematical Knowledge. BERTRAND RUSSELL. The Monist, XXIII, 4, pp. 481–493.

Understanding by the term 'mathematical logic' any logical theory whose object is the analysis and deduction of arithmetic and geometry by means of concepts belonging to logic, we may consider the mathematical results, the methods of mathematical reasoning, or the intrinsic nature of mathematical propositions. As the results have the greatest degree of certainty, we start with them. The most brilliant contributions in this line have been made in the exact theories that we have been able to form about infinity and continuity. The conception of numbers which lack some inductive properties has removed the contradictions in infinite number. Likewise a theory positing a continuum composed of an infinity of distinct elements has been worked out, thus banishing the contradictions formerly held to exist in realistic theories of time and space. The mathematical logic has also contributed its concepts of a function and a variable as aids in philosophical speculations. The old difficulty involved in the idea of the repetition of an identical cause is banished as we now posit only a constant relationship between the causes and effects of a certain kind, that is, the latter is a function of the former.—Mathematical logic deals with propositions which contain no constants other than logical constants, *i. e.*, constants from which particularity has been removed to the greatest possible degree. These logical constants are those which constitute pure form, and a formal proposition is one which is made up of them exclusively. In pure mathematics, we care nothing for the particularity of the subject as this is concerned with the verification of the hypothesis. All that concerns us is that the hypothesis shall truly imply the thesis regardless of whether its conditions are ever realized or not. The discussion is never concerning facts that are applicable to such and such an individual object; we need never know

anything about the real world. The verification, in the case of particular objects, of the hypotheses framed about the variables is only necessary for the importance of the deductions, not for their truth. For this, all that is essential is that the hypothesis truly implies the thesis. Consequently we need true propositions about implication. These propositions are both premises and methods of obtaining consequences of the premises. As a result, if they are not true, we would not even arrive at a correct deduction (regardless of the truth or falsity of our premises). This is what differentiates the foundations of mathematics from the later parts. In the latter, we may start from false premises and still arrive at a logically correct conclusion, provided only our rules of deduction be correct. But in the foundations, the falsity of the premises implies the falsity of the deduction itself, as we are using invalid laws of operation.—The consequences of the analysis of mathematical knowledge are of value to the theory of knowledge. In the first place, the fact is clear that we need in this field premises which are not based on the data of sense. Every general proposition goes beyond the limits of knowledge obtained through the senses, which is wholly restricted to what is individual. If we appeal to the method of induction, we should not overlook the fact that in this case we are basing our generalization on the principle of induction which is itself not susceptible of proof in the sphere of experience. All knowledge obtained by reasoning needs logical principles which are a priori and universal. We thus have two kinds of knowledge: knowledge of particular facts which alone allows us to affirm existence, and knowledge of logical truth which alone allows us to reason about data. Scientific propositions are obtained from particular premises by means of logical principles. These latter possess the same objectivity, the same independence of mind, that the particular facts of the physical world possess. Their continued constancy, their universal validity for human minds, and their guarantee of correct deduction of fact, force us to a kind of scholastic realism, to the admission of a world of universals which subsists.

R. B. Owen.

The Genesis of the Categories. W. K. Wright. J. of Ph., Psy., and Sci. Meth., X, 24, pp. 645–657.

Recent developments in psychology and sociology confirm the contentions of pragmatists that such categories as space, time, thing, number, and causation are functional devices that have arisen in human experience to serve as effective instruments to action. Evidence is cited, chiefly from Dürkheim and Lévy-Bruhl, to show that these categories are social in their origin, and that they have greatly varied in different societies and stages of culture, in response to practical exigencies. Truth is also classed as a category, and supposed to have arisen under similar circumstances. At first any sort of satisfaction following the acceptance of an idea probably made it true; but soon the satisfaction had to be referrable to a social standard, and usually it had to satisfy the instinct of curiosity in isolation from other instincts, and to

satisfy the virtue of wisdom. "In a broad way, a truth may be defined as any cognitive material that is affectively satisfying to a social group, so that it may be employed as an instrument to action." This is not subjectivism, for the categories are social creations, and are the most permanent elements in human thought. The categories are real, not only in the sense that they are "postulates so valued by human beings that the latter would maintain their belief in them at whatever empirical cost," but also because the external universe "is such that when human organisms come into experiential relations with it, their percepts and categories are fairly efficient in enabling them to effect an adjustment with it."

W. K. W.

Le problème moral: Idées et Instincts. G. BAUCHAL. Revue philosophique, XXXVIII, 8, pp. 158–182.

The rapid advance of science has caused a decline of religious beliefs and accentuated the disagreement between the moral structure or personality of individuals, and the social and economic environment. The moral personality is a combination of moral ideas and morality proper, which latter is chiefly instinctive, and innate. So far as moral ideas are concerned, moral personality is adaptive to the social *milieu*, and evolves in accordance with economic and other demands. On the other hand, the instinctive basis of morality proper is more rigid and inelastic, for the moral instincts have not greatly varied during the historical period. However, there is evidence to show that the moral instincts are also modifiable and subject to social evolution—viz.: the fidelity of the dog to his master, an instinct newly acquired since the origin of the species; female modesty, an instinct greatly modified since the advent of Christianity; modifications in the instincts of the children of alcoholics, and of those who have excelled in some form of human activity. Such and other evidence cited indicates that moral instincts are probably to some extent subject to artificial selection, and that eugenic measures for this purpose are worthy of consideration.

W. K. WRIGHT.

Die alte und die neue Logik. H. KLEINPETER. Z. f. Posit. Ph., I, 3, pp. 157–171.

For two thousand years logic was regarded as the unquestionable basis of philosophy and all science. To-day, nothing is so unanimously questioned by the different schools as the success of any attempt to found a logical system. The logic of Plato, Aristotle, Descartes, Leibniz, and Spinoza all claimed to contain a criterion of truth not dependent on experience. They made the mistaken attempt to infer being from mere thought. There have been three notable efforts made to establish a reformed logic, resulting in the psychological, the transcendental or Kantian, and the symbolic logic. A fourth might be mentioned, in connection with such names as Mach, Schiller, and Poincaré. Psychological logic is found in the works of Herbart, Brentano,

Wundt, and Sigwart. Symbolic or mathematical logic, which began with Leibniz, is chiefly found in the writings of Peano, Padoa, Schröder, Russell, Couturat, and Royce. Of these, only Padoa and Royce satisfy the demands of science. No unity of system or theory is apparent among the different representatives. Two kinds of error vitiate their results, one depending on the superfluity and tautology of the propositions; the other, on the adherence to out-worn philosophy,—as in the case of the old ontological argument. Royce admits that the world of the logician is one of hypotheses, theories, and ideal constructions. Mach justifies natural science, as did Goethe and Nietzsche, by showing that logic depends upon its agreement with experience to make it valid. The pragmatists also say that truth depends upon usefulness. Experience alone may be said to contain a criterion of truth, but logical thought includes a system of those forms which organize our experience. If logic is to develop further it must ally itself with mathematics for a systematic investigation of the forms of thought which are already known and used.

ALMA R. THORNE.

L'œuvre d'Henri Poincaré: Le Philosophe. L. BRUNSCHVICG. Rev. de Mét., XXI, 5, pp. 585–616.

The example of Poincaré proves that creative genius did not perish with the golden age of mathematics, the seventeenth century. One of the chief problems of mathematical research before his time was the question of certitude. In Poincaré's work it is an investigation, not of certitude, but of truth. The classical notion of truth or verity was based on intuition. Poincaré, as philosopher, mathematician, astronomer, and physicist, demonstrated that science does not depend upon intuitional verity, but upon principles which are conventional formulas, chosen for their convenience in reconciling the intellectual requirements of simplicity and approximate representation of sensible data. In substituting the notion of convenience for that of intuitional verity, Poincaré seems to have overthrown the objectivity of geometry and rational physics, and to have allied himself with pragmatism, but his critique really introduces into science a verity that has universality. He distinguishes carefully between principles that are conventions and those which are arbitrary. Conventions rest on an experimental origin and are always subject to revision when experience proves that they are not the most convenient formulas of explanation. For Poincaré, convenience is not merely logical simplicity, but is also that which gives intelligence its grasp on things themselves. Mathematical reasoning is inductive, and a complete induction has the force of irresistible evidence, which is no other than the mind's affirmation of its own power to conceive the indefinite repetition of an act once found possible. The direct intuition of this power can be transformed into the direct intuition of data, in the realistic sense of the word. Reflection upon pure mathematics shows that science develops on a plane intermediate between formal logic and intuition. Though we cannot have a direct intuition of space, direction, and distance, there are found in physics and mathematics laws which seem to

be based on the unvarying relations between "brute facts." Two principles which seem to be imposed upon the very nature of things are simplicity and continuity. Poincaré finds simplicity to be a relative principle, always subject to further analysis. The ultimate postulate of scientific faith is the belief in continuity. "Without it," says Poincaré, "science would not exist." The only truly objective reality, for him, is that internal harmony of the world which is the source of all beauty.

ALMA R. THORNE.

Life and Logic. H. WILDON CARR. Mind, 88, pp. 484–492.

Bosanquet's theory of the absolute is similar to M. Bergson's theory in the following respects. First, experience is appearance and reality has to be sought. Secondly, reality is infinite, and in living experience we touch it and know it. Thirdly, reality is of the nature of consciousness. Fourthly, discursive thought leads to contradiction and inconsistency, and the absolute is where reconciliation is found. The two theories differ in that Bosanquet contends that reality is not given immediately but by logical processes, while M. Bergson contends that reality is given immediately in the intuition of life and that reality is not given by thought. Bosanquet calls Bergson's theory of the indeterminism of life a guidance theory, but it is not the kind which it is assumed to be by Bosanquet. Bergson does not regard the relation of life to the organism as that of two different kinds of reality. The opposition between the logical doctrines of these two men is due to the principle behind each of them. For Bosanquet thinking starts with identity, and seeks to attain the whole. For Bergson the intellect is an instrument of action. Bosanquet answers successfully a criticism of mechanical determinism against the absolute, but Bergson's criticism is not that of mechanical determinism. For both of these men spatialized time is appearance. The issue is in regard to the nature of the absolute. Bosanquet says the absolute is timeless, Bergson says the absolute is time.

C. M. HOBART.

Idealism and the Reality of Time. HUGH A. REYBURN. Mind, 88, pp. 493–508.

The postulate of idealism is that reality is a single system. The absolute is this single system as a whole. The remedy for the defects of idealism is more system. Bosanquet contends that the whole is rational in nature, and that the dialectic of experience not only condemns appearances but also reconstructs the world. He also tends toward holding time to be unreal. While Professor Ward considers reality from the view of history and morality, Bosanquet views the matter as art and religion. The antithesis that will be dealt with here is that of art and history. The difficulty of treating reality in terms of art is that the time element is liable to be overlooked. Time requires permanence and unity of content, and implies change and exclusiveness. Each of these aspects is essential. Temporal externality of parts is similar to spatial externality of parts. The externality of time is distinct from the externality

of space. Time involves succession. Time is sometimes judged to be unreal by denying change. However we know reality only through change. Change and time are usually judged unreal by taking two or more aspects of the whole of these conceptions, and by setting these different isolated aspects over against one another to produce contradiction. One of these aspects is considered real, and the rest unreal. McTaggart uses this method. Bosanquet also holds to the view of the subjectivity of time. For him time is a hindrance for one in comprehending the total real. He contends that the unity which continues through time is the important consideration. This view accords with considering the whole from the standpoint of art. Although time is an element in the presentation of the whole it is unessential. Meaning is the essential element. Idealism should not adopt such a position because the absolute must include succession. In many instances the unity of the whole is dependent upon the self-externality of time. An absolute which ignores succession omits a great deal of the meaning of life. If we desire to call the self free, there must not be anything alien to it. Externality must not be opposed to the self. Bosanquet admits that one can never explain the appearance of the whole in finite minds. This admission of inability to explain finite things displays a failure in method. We have two alternative views left. First, the absolute itself is changeless, but change occurs within the absolute. Secondly, the absolute is a permanent which changes, and one element is equal in importance to the other.

C. M. HOBART.

The Aviary Theory of Truth and Error. A. W. MOORE. J. of Ph., Psy., and Sci. Meth., X, 20, pp. 542–546.

If true and false are attributes of the *objects* of belief or judgment, not of the *act* or *process* of belief; if truth and error are respectively belief in the real and the unreal; if belief is the attitude we take toward any proposition that *appears* to be true or real, as Professor Montague in *The New Realism* asserts, then the object of belief must be either all truth or all error. Belief in the unreal as unreal is no more a case of error than is belief in real as real. The only possibility of error is that the unreal shall appear as real, but who will determine that? The fallacy of the neo-realist lies in the partition of belief into a contentless, subjective, mental act on the one hand and an actionless content or object on the other.

HENRY BENTSON.

The Last Phase of Professor Ward's Philosophy. J. H. MUIRHEAD. Mind, 87, pp. 321–331.

Professor Ward's philosophy, a revolt against the older idealism with its static Absolute, starts with a world of self-determining monads united into a "totum objectivum" by mere coexistence. His problem is to explain the actual constitution of the world as a Realm of Ends, or, more specifically, (1) to explain the subsequent development of the monads toward ever greater

union and coöperation, and at the same time, ever greater individuality; and (2) to guarantee the continuance of this development and the ultimate triumph of the good. Ward succeeds just in so far as he departs from his pluralistic assumptions and appeals to Absolutism. (1) Starting with a plurality of individuals impelled by a blind desire of self-preservation, Ward cannot account for progress to an objective social order involving the subordination of private to common ends, without introducing idealistic conceptions, such as "an impulse to betterment," inconsistent with his presuppositions. (2) In guaranteeing the continuance and completion of the gradual supremacy of the good over evil by appealing to the existence of intelligences that have a directing power over evolution, Ward repudiates his principle of continuity, admits the inadequacy of his previous explanation, and brings in a conception that will necessitate a reconstruction of his whole philosophy. Thus Personal Idealism fails. Moral and religious consciousness implies an absolutistic metaphysic. Absolutism does not deny the reality of time, freedom, progress, and personality, though it finds their value in something not a process of time.

RAYMOND P. HAWES.

Plato's Erkenntnislehre in ihren Beziehungen zur Kantischen. S. MARCK. Kant Studien, XVIII, 3, pp. 246–262.

A fair interpretation of Plato and Kant reveals the problems and results of the former reappearing in the latter, although transformed by his more completely critical analysis of the nature of thought and by the modern conception of natural science. Each thinker adopted the problem of knowledge isolated from other philosophical questions as the focal point of his investigations. Like Kant, Plato based his critique not on dogmatic assumptions but on the actual procedure of science, exemplified for him in mathematics. Each showed the inadequacy of contemporary empiricism by rigorously developing it; for Plato, too, "Perception without concepts is blind." Both critiques substantiate the universal validity of judgments. The method of hypothesis taught Plato that it is the nature of thought to view things through the medium of principles. The use and appreciation of this method unites the two men even more intimately than their common attitude toward empiricism or their common subject. Yet for Kant, the Platonic doctrine of ideas was the stock example of an unwarrantable metaphysics. In spite of the fact that he overemphasized the speculative side of the doctrine of ideas, which is essentially epistemological, Kant's criticism lays bare the ultimate weakness of the Platonic development of the concept of method. Plato failed to separate the form and content of knowledge; his idea was a new content, not a principle of knowledge. Idealism really came into its own when Kant applied the categories, the forms of thought, to experience, its content. Plato saw the eternal essence of science without being able to deduce its possibility systematically. For Kant, science is an actual fact which must be analyzed into its purely logical conditions; for Plato, science itself is an idea. In the Parmenides, the

system of fixed ideas was transformed into a system of relations, but it was not applied to experience, principally because Plato knew no natural science worthy the name. Kant was able to start with the idea of a developed natural science, and it is the experience theory of the critical philosophy that fulfills the concept of method. The distinction between the form and content of thought, the fuller appreciation of the spontaneity of the mind in determining the form, and of the value of experience as constituting the content of knowledge, the insight into the essentially conditioned nature of knowledge, the very separation of science and philosophy—all these elements distinguish Kant's epistemology from Plato's. Yet in his ethics and metaphysics, Kant again found an Absolute and Unconditioned. A doctrine of ideas transcending experience became the regulating principles of knowledge. Finally, the Platonic Idea of the Good, as lying beyond merely mathematical ideas, is apparently an anticipation of the Kantian distinction between reason and understanding, in which distinction it is fully explicated and justified.

ANITA FREDERICA DE LAGUNA.

Recent Criticism of Kant's Theory of Knowledge. G. DAWES HICKS. Mind, 87, pp. 331–344.

This article is a critical review of Prichard's *Kant's Theory of Knowledge* and Sidgwick's *Lectures on the Philosophy of Kant, and Other Philosophical Lectures and Essays.* Each criticises from a hostile, realistic point of view. In opposition to Kant each maintains the "transcendental reality" of space, time, and material entities. Each finds the Kantian epistemology to issue in Subjectivism. Kant's mechanical theory of knowledge implies that knowledge is within the subject and is the mind's "construction." Prichard insists that knowing is the "discovery" of realities independent of mind. Prichard wrongly attributes Kant's confusion to the view that knowledge is synthesis. Kant means by synthesis, not "spatial synthesis," as Prichard believes, but the very act of knowing. Kant's distinction between sensibility and understanding is responsible for his Subjectivism. Prichard, accepting this distinction, also becomes ensnared in Subjectivism. Kant erroneously thought he had evaded Subjectivism by distinguishing between the inner and outer senses, each knowing its reality with equal immediacy and certainty. Occasionally he recognizes the real issue: the relation of the contents of external perception to real existence. Kant believes the consciousness of any existence in time implies the existence of permanent outer "objects" distinct from "Vorstellungen." By "Vorstellungen" Kant means the content known, not a process of mind as Prichard and Sidgwick hold. Sidgwick rightly urges that by "objects" Kant means objects of possible experience. Prichard asserts that in the first edition of the Analytic the meaning of "objects" shifts from things-in-themselves to phenomenal objects. This is improbable. Prichard contends that Kant's thing-in-itself is the correlate to the unity of consciousness. Not always in Kant is "transcendental object" synonymous with noumenon or thing-in-itself. According to Prichard, Kant

considers space "a priori" because we apprehend empty space before we apprehend spatial relations of objects in it. But "a priori" denotes logical not chronological priority. Space by itself is never perceived. It is merely a condition of the possibility of perception. Prichard wrongly maintains contrary to Kant that space is a concept derived by generalization from particular objects. Prichard's chapters on "The Schematism of the Categories" and "Time and Inner Sense" contain much admirable criticism.

RAYMOND P. HAWES.

Die Begründung einer idealen Weltanschauung. KARL SKOPEK. Ar. f. sys. Ph., XIX, 3, pp. 289–318.

In this article, Dr. Skopek gives a brief historical review of idealism and materialism and then proceeds to develop the outlines of a world-view based in essentials upon the doctrine of Leibniz. In the historical part of the article he distinguishes between two forms of idealism,—pantheism and theism,—making a further distinction between the pantheism of emanation, that of evolution, and that of immanence. Dr. Skopek traces the pantheism of emanation from the Indian philosophy through Neo-Platonism, Gnosticism, the Jewish Cabala, Sufiism, and the system of Joannes Scotus Erigina. The pantheism of evolution is traced through Heracleitus, the Stoics, Bruno, Fichte, Schelling, Hegel, Schopenhauer and Edouard von Hartmann. Thirdly, the pantheism of immanence is illustrated by reference to Xenophanes, Parmenides and Spinoza. Turning to materialism, Dr. Skopek first alludes to this tendency in Indian philosophy and then shows the development of materialistic theory through Leucippus, Democritus, Epicurus, Gassendi and Hobbes, referring briefly also to Feuerbach, Moleschott, Vogt, Büchner, du Bois Reymond, and Benedikt. In the second or critical and constructive part of the article, Dr. Skopek maintains that pantheism destroys the individual, that it destroys all teleology, and that it leads to pessimism and quietism. He also holds materialism to be untenable, chiefly for epistemological reasons. He then develops what he calls the dynamical or spiritualistic world-view, drawing chiefly upon the monadology of Bruno and Leibniz. This view, he holds, avoids the difficulties of both pantheism and materialism, gives a satisfactory metaphysical account of the nature of matter, adequately recognizes the individual, gives due place to teleology, and affords a satisfactory theory of the relation of God to the world. According to Dr. Skopek, the physical and chemical researches of Faraday, Crookes, Stoney, Poincaré, Weiss, Le Bon, and others, and the biological investigations of Weismann are in harmony with this view.

J. R. TUTTLE.

The Nature and Development of Attention. G. DAWES HICKS. Br. J. Ps., VI, 1, pp. 1–25.

By one class of thinkers, attention is treated as a sort of light which is directed upon presentations; by another class, as a property or attribute of

the presentations themselves. Both positions err in that they treat presentations as objects, for the presentation is inseparable from the process of apprehending itself. The peculiarities of the facts of attention are only to be understood by reference to the simpler and more primordial processes of mind. Attention arises as a complicated and highly developed modification of the fundamental process of apprehension and is largely of the nature of a habit. The elementary components of mind are acts of apprehension which come later to be distinguished as sense-qualities, as sense-feelings, or as impulses or strivings which find a terminus in bodily movement. In the simplest form of psychic life, some discrimination or comparison is involved. In fact, there are infinitely various specific modes of such discrimination in the course of mental evolution. On this view of attention, we may distinguish in the process three characteristics: (*a*) a selection of certain features within the field of what is apprehended; (*b*) the increased clearness and distinctness of the content attended to; (*c*) experiences in the form of feeling-tone that precede or accompany the attitude of attending. As a result of this last, the content is detained for a time before the mind and an opportunity is given for the establishment of associations between this and other contents and for easy and rapid reproductions of the content in the form of images. Clearness and distinctness are produced, neither by a mere increase of mental energy directed upon a content, nor by a mutual interplay of presentations, conflicting with and reinforcing one another, but by the gradual discrimination within a vague, ill-differentiated whole of certain characteristic marks in a given content. If sense-contents are accompanied by movement, or if they incite pleasurable or painful feelings, they will retain a more prominent place in consciousness. Secondary attention may be accounted for on the same general principles as primary. Secondary attention depends more on the connection of a given content with the past experience of the subject than upon the absolute vividness of presentation. The range of this type of attention varies greatly with the successive stages in the development of mind. The special features that call for explanation in the higher forms of attention, known as voluntary or deliberate, follow naturally from the varying circumstances that appear in the course of mental development. Volition and the consciousness of self arise chiefly through progressively co-ordinated sense-experiences which are concomitants of bodily movements. At the same time, the mental activity involved in feelings of strain or effort is only a part of the whole activity of apprehending.

J. R. TUTTLE.

Le concept sociologique de progrès. EUGÈNE DE ROBERTY. Rev. Ph., XXXVIII, 3, pp. 251–261.

The neo-positivist school proposes to make of sociology an autonomous and rigorously abstract science, and to revise all the chief sociological terms. The hitherto obscure idea of progress is treated by this school as belonging to the sociology of action. The subject-matter of the sociology of action is con-

stituted by the ends which human beings strive to realize. These ends really act as final causes with regard to action, yet both popular and scientific thought often treat them as efficient causes. Causes both external and internal make us always act in the same way under the same conditions. From the sociological point of view, social phenomena are neither good nor evil, but indifferent, like physico-chemical phenomena. The finalism which characterizes the facts of reason is determined by causes of the internal order. All forms of social thought obey the laws of finality. The phenomenon of human activity guided by voluntary ends which have both an affective and an ideal character, is part of the general order of nature. The creative force which causes the evolution of morals and customs, law and the institutions of civilized peoples, is always abstract thought. The notion of an absolute progress must give place to that of a relative progress, in the various manifestations of which there appears a common element, the augmentation of knowledge, whether physico-chemical, biological, or superorganic. The development of these three grand divisions of knowledge is the unique and permanent source of all social progress.

J. R. TUTTLE.

Vers l'Unité. CARDINAL D. J. MERCIER. Rev. Néo-Sc., XX, 79, pp. 254–278.

A historical survey of its development illustrates the fact that philosophy, if it aspires to a stable balance, must use all its resources in submitting to the reflective reason the moral as well as the speculative order, with the object of uniting in an integral synthesis the total content of human consciousness. Separatism is the vice of modern thought, though one which it is progressively overcoming. As judgments of fact and judgments of value arise from different preoccupations of our intelligence, it is natural that it should form them separately at first, but not less so that it should later compare them to see if they may not be combinable. Plato recognized the essential unity of the good, the beautiful, and the true. Christian tradition, from the Church Fathers to the Doctors of the Middle Ages, following first Plato and later Aristotle, was unanimous in forming a comprehensive conception of the task of philosophy. Beginning with the twelfth century, philosophy and theology became distinct disciplines, but no one, before the time of Descartes, found his duty or privilege to drop out of consideration any factor of consciousness. Descartes, however, erected separatism into a system. For him, to philosophize is to judge, to know; nothing more, nothing less; his first step is to divest himself of previous knowledge, belief, sentiment. Moral data become facts of consciousness simply, significant only as such. Spinoza, on the other hand, proclaimed a comprehensive, unified system; but his voice was unheeded. Kant embraced, indeed, in his criticism, the two domains of thought and action, but only deepened the moat which separated them. Then came the scientific movement, and knowledge, theory, became again supreme. Reaction set in with Brunetière's declaration of the failure of science. Pragmatism and voluntarism in various forms rapidly grained gound, and today the issue is clearly drawn

between intellectualism and anti-intellectualism. Analysis is necessary, but as a means to an ultimate synthesis. Two currents are leading philosophy toward a unitary conception. Pragmatism may be passed over, as a method rather than a system. A group of French thinkers, on the other hand, show constructive originality. Ollé-Laprune furnished the initial impulse, and insists on preserving experience whole and intact, including the religious side. Bergson, successful in overthrowing intellectualism by transferring the emphasis to intuition, has not, however, assisted much in the necessary reconstruction. His theory of immanence is only an elegant poem woven on a fictitious warp. It is to Wilbois and Blondel that we must look for the solution of the problem. With them, God is not a mere pantheistic deification of becoming; he is transcendent, personal. The "élan vital" becomes the "élan humain"; we meet the transcendent in the social reality, in the life of humanity. The Christian virtues, faith, hope and charity, link us to God. Not directly, however, but indirectly; the union of the outer and inner facts can only take place through a living faith, and this comes from the docile acceptance of the divine revelation embodied in the teaching of the historic Catholic Church.

F. H. KNIGHT.

NOTES.

We give below a list of the articles in the current philosophical periodicals:

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, X, 21: Discussion of the "New Realism": *A. O. Lovejoy*, Realism vs. Epistemological Monism; *W. H. Sheldon*, Professor Montague as "Neo-Realist" on Error; *R. M. Yerkes*, Comparative Psychology: A Question of Definitions.

X, 22: *George Santayana*, Dr. Fuller, Plotinus, and the Nature of Evil; *F. J. E. Woodbridge*, The Belief in Sensations; Discussion: *J. R. Angell*, Professor Watson and the Image.

X, 23: *Josiah Royce*, An Extension of the Algebra of Logic; Discussion: *J. H. Leuba*, An Answer to Professors Shotwell and Hocking.

THE PSYCHOLOGICAL BULLETIN, X, 9: General Reviews and Summaries: *J. W. Baird*, Memory, Imagination, Learning, and the Higher Mental Processes (Experimental); *W. C. Gore*, Memory, Concept, Judgment, Logic (Theory); *E. H. Cameron*, Reading; *J. E. Downey*, Graphic Functions; *W. V. Bingham*, Vocal Functions; Discussion: *C. E. Ferree*, The Effect of Changes in the General Illumination of the Retina upon its Sensitivity to Color; *Knight Dunlap*, The Hipp Chronoscope without Springs; *M. F. Washburn*, The Effect of Verbal Suggestion on the Affective Value of Colors.

X, 10: General Reviews and Summaries: *Theodate L. Smith*, Childhood; *Bird T. Baldwin*, Adolescence; Special Reviews: *Irving King*, Thorndike's The Original Nature of Man.

X, 11: General Reviews and Summaries: *J. B. Miner*, Correlations; *F. L. Wells*, Dynamic Psychology; *E. B. Delabarre*, Volition and Motor Consciousness; *E. K. Strong, Jr.*, Fatigue, Work, and Inhibition; *V. A. C. Henmon*, Reaction Time; Special Reviews and Reports: *H. W. Chase*, Löwenfeld's Bewusstsein und Psychisches Geschehen; *R. M. Ogden*, Psychology at the Birmingham Meeting.

BRITISH JOURNAL OF PSYCHOLOGY, VI, 2: *C. S. Meyers*, Are the Intensity Differences of Sensation Quantitative?; *G. D. Hicks, H. J. Watt, William Brown*, Idem; *C. W. Valentine*, The Æsthetic Appreciation of Musical Intervals among School Children and Adults; *G. H. Thomson*, Note on the Probable Error of Urban's Formula for the Method of Just Perceptible Differences; *W. Brown*, The Effects of "Observational Errors" and Other Factors Upon Correlation Coefficients in Psychology; *H. J. Watt*, The Main Principles of Sensory Integration.

MIND, No. 88: *A. Lovejoy*, Some Antecedents of the Philosophy of Bergson; *H. W. Carr*, Life and Logic; *H. A. Reyburn*, Idealism and the Reality of Time; *J. E. Boodin*, Pragmatic Realism,—The Five Attributes; Discussions: *E. E. C. Jones*, Analysis of Categorical Propositions; *F. C. S. Schiller*, The Working of

Truths and their Criterion; *H. S. Shelton*, On Metageometry and the Sense of Direction; *R. B. Perry*, Realism and Pragmatism; *N. K. Smith*, The Meaning of Kant's Copernican Theory.

THE AMERICAN JOURNAL OF THEOLOGY, XVII, 4: *H. P. Smith*, Charles Augustus Briggs; *W. W. Fenn*, Modern Liberalism; *C. J. Bushnell*, The Place of Religion in Modern Life; *S. J. Case*, The Problem of Christianity's Essence; *E. D. Burton*, Spirit, Soul, and Flesh; Critical Notes: *E. J. Goodspeed*, The Freer Gospels; *W. R. Smith*, Fresh Light on the Synoptic Problem.

THE PRINCETON THEOLOGICAL REVIEW, XI, 4: *G. Vos*, The Range of the Logos-Name in the Fourth Gospel; *J. A. Mackay*, Conscience and the Atonement; *J. O. Boyd*, The Source of Israel's Eschatology.

THE HARVARD THEOLOGICAL REVIEW, VI, 4: *K. Bornhausen*, A Study of the Religion, Theology, and Churches of the United States; *C. W. Eliot*, The Churches and the Prevailing Social Sentiment; *P. Smith*, Luther's Development of the Doctrine of Justification by Faith Only; *L. H. Miller*, The Teaching of Ernst Troeltsch of Heidelberg; *H. A. Voutz*, The Peril of a Safe Theology; *W. M. Salter*, An Introductory Word on Nietzsche; *K. Fullerton*, The Book of Isaiah: Critical Problems and a New Commentary.

THE INTERNATIONAL JOURNAL OF ETHICS, XXIV, 1: *G. F. Barbour*, Christian Ethics and the Ideal of Nationality; *H. S. Shelton*, The Hegelian Concept of the State and Modern Individualism; *N. C. Mukerji*, Martineau on the Object and Mode of Moral Judgment; *H. M. Kallen*, Art, Philosophy, and Life; Proceedings of the Conference on Legal and Social Philosophy.

THE HIBBERT JOURNAL, XII, 1: *Theodore Roosevelt*, The Progressive Party; *Francis Younghusband*, Some Laymen's Needs; *Frederick Pollock*, The Relation of Mystic Experience to Philosophy; *A. S. Pringle-Pattison*, "The Free Man's Worship"; *Ernest Hamilton*, Immortality and Competition; *C. E. Ozanne*, The Significance of "Non-Evidential Material" in Psychical Research; *C. Reddie*, "The Public Schools and the Empire"; *F. W. Leith Ross*, International Morality; *E. H. Jones*, The Evolution of the Social Conscience towards Crime and Industrialism; *H. H. Wendt*, The Historical Trustworthiness of the Book of Acts; *G. W. Wade*, Miracles and Christianity; *John Erskine*, The Moral Obligation to be Intelligent.

THE MONIST, XXIII, 4: *Bertrand Russell*, The Philosophical Importance of Mathematical Logic; *R. Garbe*, Christian Elements in the Bhagavadgita; *A. J. Edmunds*, The Accessibility of Buddhist Lore to the Christian Evangelists; *A. H. Lloyd*, The High Comedy of Philosophy; *Otto Hermann*, The Monism of the German Monistic League; *Sydney Waterlow*, "Interlingua" and the Problem of a Universal Language; *C. L. Marsh*, The Agnostic (Poem); Criticisms and Discussions; *C. W. Kendall*, Reflections on Immortality; Editorial Discussion with *Lucien Arréat* and *G. A. Black*, Problems of Pure Form; *A. Pratelle*, Correspondence: Discussion with the French Plasmo-

genists on the Origin of Life; *W. S. Andrews* and *H. A. Sayles*, Magic Squares Made with Prime Numbers to Have to Lowest Possible Summation: *H. A. Sayles*, Geometric Magic Squares and Cubes; The Problem of Life After Death; *A. J. Edmund*, Buddhist Influence on Christianity; *P. Carus*, English as a Universal Language; The Multiplication of Pears and Pence; *C. Thomas*, Schiller's Philosophical Poetry.

AMERICAN JOURNAL OF PSYCHOLOGY, XXIV, 4: *K. M. Dallenbach*, The Measurement of Attention; *C. A. Ruckmich*, A Bibliography of Rhythm; *G. H. Taylor*, Clinical Notes on the Emotions and Their Relation to Mind; *D. O. Lyon*, A Rapid and Accurate Method of Scoring Nonsense Syllables and Words; *H. L. Hollingsworth*, Characteristic Differences Between Recall and Recognition; *E. J. G. Bradford*, A Note on the Relation and Æsthetic Value of the Perceptive Types in Color Appreciation; *Max Meyer*, The Comparative Value of Various Conceptions of Nervous Function Based on Mechanical Analogies; *E. T. Burr* and *L. R. Geissler*, An Introspective Analysis of the Association-Reaction Consciousness; *J. E. Coover*, "The Feeling of Being Stared At"—Experimental; *F. Angell*, Projection of the Negative After-Image in the Field of the Closed Lids; *E. B. Titchener*, Professor Martin on the Perky Experiments; *M. Browning*, *D. E. Brown*, and *M. F. Washburn*, The Effect of the Interval Between Repetitions on the Speed of Learning of Series of Movements; *H. Clark*, *N. Quackenbush*, and *M. F. Washburn*, A Suggested Coefficient of Affective Sensitiveness; *E. B. Titchener* and *W. S. Foster*, A Bibliography of the Scientific Writings of W. Wundt, Fifth Supplementary List.

THE PSYCHOLOGICAL REVIEW, XX, 5: *E. K. Strong*, The Effect of Time-Interval Upon Recognition Memory; *C. E. Ferree*, A Note on the Rotary Campimeter; *R. M. Ogden*, Experimental Criteria for Differentiating Memory and Imagination in Projected Visual Images; *M. E. Haggerty*, The Laws of Learning; Discussion: *G. V. N. Dearborn*, Thorndike on Ideo-Motor Action.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, LXVI, 5 u. 6: Bibliographie der deutschen und ausländischen Literatur des Jahres 1912 über Psychologie, ihre Hilfswissenschaften und Grenzgebiete.

LXVII, 1 u. 2: *F. Hillebrand*, Die Aussperrung der Psychologen; *P. Ranschburg*, Über die Wechselwirkungen gleichzeitiger Reize im Nervensystem und in der Seele.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, XX, 1: *H. Siebeck*, Neue Beiträge zur Entwicklungsgeschichte des Geist-Begriffs; *C. M. Gillespie*, The Logic of Antisthenes; *Aurelia Horovitz*, Die Weltanschauung eines Romantikers; *J. Halpern*, Despinoza in neuer Beleuchtung. Analyse des Werkes: Stanislaus von Dunin-Borkowski S. J. Der junge De Spinoza. Leben und Werdegang im Lichte der Weltphilosophie, 1910; *J. Waldapfel*, Ein deutscher Pädegog als Vorgänger Spencers in der Klassification der Wissenschaften; *J. Lindsay*, The Philosophy of Krause; *W. Bauer*, Die Bedeutung des Gottesbegriffes bei Descartes.

Archiv für systematische Philosophie, XIX, 3: *F. Goldner*, Logisch-metaphysische Gedanken über Freiheit und Notwendigkeit; *K. Skopek*, Die Begründung einer idealen Weltanschauung; *J. Schlaf*, Unendlichkeit, Polarität, und Materie; *G. Wendel*, Untersuchungen über die Raum-, Grössen-, und Zeitanschauung; *E. Barthel*, Ein Beweis für die Unrichtigkeit der Kausalhypothese; *Otto Kröger*, Die Religion im Lichte des reinen Idealismus.

Kant-Studien, XVIII, 3: *J. Rehmke*, Wilhelm Schuppe; *R. Hönigswald*, Prinzipien der Denkpsychologie; *S. Marck*, Platons Erkenntnislehre in ihren Beziehungen zur Kantischen; *O. Braun*, Die neue Fichte-Ausgabe von Fritz Medicus.

Revue de Philosophie, 13, No. 10: *A.-D. Sertillanges*, Le mariage comme institution naturelle; *A. Véronnet*, Les hypothèses cosmogoniques (quatrième article); *M. d'Hallium*, Le Problème de la mort (premier article); *R. Marchal*, Deux critériologies nouvelles.

No. 11: *Fr. Bouvier*, Le Totémisme est-il une religion?; *M. d'Halluin*, Le Problème de la mort (second article); *M. Gossard*, Le sens metaphysique de la loi de conservation de l'énergie (second article); Les cours de Philosophie dans les Universités des pays de langue française (1913–1914); Les cours et conférences de la *Revue de Philosophie*.

Revue des Sciences Philosophiques et Théologiques, 7, No. 4: *H.-D. Noble*, La connaissance affective; *F. Blanche*, L' ambiguïté de la notion d'idée chez Spinoza; *D. Buzy*, Saint Jean-Baptiste a-t-il été sanctifié dans le sein de sa mère; *R.-M. Martin*, Les idées de Robert de Melun sur le péché originel; *A. Lemonnyer*, Les tisseuses d'Achéra.

Archives de Psychologie, XIII, 51: *J. M. Lahy*, Une calculatrice-prodige; *Ed. Claparède*, Encore les Chevaux d'Elberfeld; *V. Demole*, A propos d'un cas de conviction spontanée.

Revue Philosophique, XXXVIII, 10: *J. Leuba*, Sociologie et Psychologie; *F. Bosc*, L'Inutilité du Vitalisme; *J. Finot*, L'Education et le Bonheur; Notes et Documents: *G. Saint-Paul*, Pensée, image et conscience chez l'animal et chez l'homme; Revue Critique: *F. Paulhan*, La lutte philosophique et la division des croyances.

No. 11: *A. Rey*, Les fondements objectifs de la notion d'électron; *J. de Gaultier*, Le monde comme volonté de représentation; *E. Goblot*, Remarques sur la théorie logique du jugement.

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THE PHILOSOPHICAL REVIEW.

TIME AND THE EXPERIENCE OF TIME.[1]

TIME is a promise and a threat: the stream we breast holds in solution our hopes and our fears. Time is regret and relief: the solution precipitates some beautiful crystal, but alas! we are swept onward and to our sorrow must leave the treasure behind. Or the solution deposits some noisome ooze which clears the flood and we move forward rejoicing in the purified and sweetened bath. Such is time for the man who does not reflect on the nature of time. It is literally a matter of course. *Die Zeit versteht sich von selbst; der Mensch versteht die Zeit nicht.* Such would seem to be the conclusion to be drawn from the various conclusions man's intellect has arrived at in seeking to understand time. To the man who reflects time has always been a problem, a challenge which the deepest thinkers have had constantly thrown in their face. Some like Parmenides meet the challenge with supercilious disdain. Some like Heraclitus accept service under the inscrutable challenger and fight by his side. Almost every philosopher worthy of his spurs has entered the list in support or in defiance of the cause which to the man of action seems to be so obviously just that it is not worth fighting about. Plato, Aristotle, Plotinus, St. Augustine, Spinoza, Leibniz, Kant, Hegel—this is only a selection from the roster of heroes in this war of the ages.

The problem of time is especially acute for the philosophers of to-day, and the thinkers to whom this urgency is most due, at least for us in this Association, are William James, Josiah

[1] Delivered—with a few omissions—as the presidential address before the Thirteenth Annual Meeting of the American Philosophical Association at Yale University, December 29, 1913.

Royce, and Henri Bergson. They were of course not the first of their generation to feel the pressure of the difficulties which time presents; but perhaps more than any other recent thinkers they have made the nature of time the basis of their philosophies, however different be the time which each discovers and defends. Others of our membership beside the two Americans just named have added their contribution toward making the time-problem a vital issue for us. I think therefore that you will agree with me that for this occasion no subject is more deserving of treatment than "Time and the Experience of Time."

The only considerations that have made me hesitate in my choice of this topic are its intricacy, which makes it little fit for a popular address, and the magnitude of it, which makes it impossible for me to do more than traverse a very small stretch of a vast continent in the minutes at my disposal. But the character of your former presidential addresses has led me to assume that you would prefer from your speaker of this evening an attempt at a serious discussion of a weighty matter, rather than a lighter treatment of some easier subject which would not require much exertion either from you or from me. I shall, therefore, not apologize for inviting you to follow me through a discussion which will be full of technicalities more seemly in a paper one may read or not as the humor takes him, than in an address in which the courtesies of this hour put the hearers at the speaker's mercy.

That in some sense we all have an experience of time every one admits. The real problem comes when we attempt to state what it is that we experience when we experience time, and to set forth what the critical intellect has to say about what is thus described. Any one who seeks to justify the ways of time to logic must first make clear what it is that he undertakes to justify. Time described one way may be logically indefensible, and the man who thinks he experiences it that way must reject time as being unreal or he must abjure logic as an arbiter of reality. Now when different persons come to describe what time presents to their experience, the result is a surprising medley of variances. It is easy thus to see why time should be

a great divide in philosophical topography. Whether it be a principle of externality or not, it is the source of a vast amount of mutual externality on the part of philosophical systems.

Were it not for the hopelessly incurable optimism of philosophers, were it not for their ineradicable faith that everybody's experience of time is at bottom of the same type and that an accurate description of this common experience by any one will ultimately meet with the acceptance of all, the easier conclusion would long ago have been drawn that man is the measure of his own time—of the time that is, that it is; of the time that is not, that it is not. A common time experienced by all, or different times severally experienced and yet fundamentally similar to each other even though the different descriptions thereof disagree, this has been the common postulate of all previous discussions of time. When a philosopher has given what he believes to be a true account of time as he experiences it, he assumes forthwith that any divergent account given by some one else is incorrect. It might be worth while to ascertain by experiment whether such personal idiosyncrasies as manifest themselves in color-experiences do not also occur in the experience of time. But this would be a task for the psychologist. This evening I shall in the empirical part of my paper deal with my own experience alone, telling you how I think time appears there. You as philosophers will of course exercise your prerogative in agreeing with me, or in thinking me in error.

I cannot do better than begin with a familiar quotation from William James's famous chapter on "The Perception of Time." The "practically cognized present is no knife-edge, but a saddleback, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a *duration*, with a bow and a stern, as it were—a rearward- and a forward-looking end. It is only as parts of this *duration-block* that the relation of *succession* of one end to the other is perceived. . . . The experience is from the outset a synthetic datum, not a simple one; and to sensible perception its elements are inseparable . . . ."[1] The experienced present is thus a series of events

[1] *Principles of Psychology*, I, pp. 609–610.

interrelated as some before and some after others. Some of these events are experienced as themselves having a duration; others, paradoxically, are not so experienced. In other words, there are experiences in which, within the present as thus described, events are experienced as some shorter and some longer than others, and there are other experiences in which the events have no experienced length at all.

In the former case the comparative length of the temporal events is a quantitative distinction. In saying this I do not mean that there is always a recognition of an analogy, of a similarity of ratios, obtaining between the comparative length of events and the comparative length of things in space. Of course the fact that temporal magnitude has similarity to spatial magnitude is something we could learn only by comparison of temporal duration with spatial length. But there *is* a distinction experienced between the different temporal events themselves which, when compared with the distinctions in space, is explicitly recognized as of a common type with the latter, and has as much right to be called a distinction of magnitude. Thus in a musical measure what we call the half-note, the quarter and the two eighths are experienced as having different characters, and when we come to name these characters in quantitative terms we are not importing into them a foreign element. Without recourse to spatial analogies we have in the very experience of a melody itself the materials sufficient to provoke comparison between one note and another and to force recognition of one note as longer than another. Magnitude is indeed a relative matter, but within the present moment there may be several temporal events to be compared solely with each other; and the result of such a comparison is the recognition of relations of magnitude among them.

But there are experienced durational wholes whose parts are not all experienced as themselves having duration. These parts come in succession but do not seem to last at all. Their sequence is experienced, but they do not have in the experience any of the spread or protension that the moment as a whole has. For instance very short taps, whose duration is capable of being

measured by instruments, may appear in experience as succeeding one another, but may not appear as having a temporal length. They come and go but do not make any stay. If later in our theory we attribute length to them we say that they were so short that their length was not capable of being perceived as such. If now these short taps are interspersed with longer beats the paradoxical character of the experience is intensified. The short ones are experienced as not so long as the long ones, and yet when we attend to any short tap by itself we cannot discover any duration in it. It has enough magnitude to admit of comparison with another magnitude, but not enough magnitude to be detected alone. Such events are experienced, and are not experienced, as having magnitude. All such temporal events as seem to take no time for their occurrence are the *minima sensibilia* of duration, sharing with the *minima sensibilia* of spatial extension the perplexing character of being perceived as parts of a continuum without being perceived as having the quality which for reflection ought to belong to them as parts. In these *minima* we find perhaps the basis of empirical fact which Hume used for his theory of space and time. He was unfortunate in building his theory on just such facts alone, without taking into account other facts equally important.

Not only has my experience a durational span within which certain events are before others, but this span is a moving span. The earlier contents drop out of experience and what was previously the latest element has its privilege of novelty taken from it by the appearance of still newer events. To use a common metaphor, there is a ripening and dropping of the fruit of time, and new burgeonings appear at the growing point. With such change we say that a new moment has arisen, in that the later moment appreciably differs from the former. It is less than the former moment by what has disappeared; it is more by what has appeared. And yet it is not altogether a new moment; for it shares with its predecessor the latter's last term and whatever lay between that last term and the vanished term. It is part of its predecessor with more added. There is no gap between the two moments, any more than there is a gap between

the two lines *ac* and *bd* when the points *a*, *b*, *c*, and *d* lie on a longer line in the order named. In the continuum of duration traversed by our waking life the successive moments thus overlap. From one moment we get to another that does not overlap it only by going through intervening moments which do overlap one another.

But this is not all that the continuity of time is experienced as being. What we have spoken of as successive overlapping moments do not differentiate themselves from each other in such fashion that the moments always come by jerks, one moment lasting unchanged and then being suddenly followed by another, with static demarcations. When for instance we look out of the window of a moving train, our field of experience changes, and yet the moments which succeed each other do not follow by instantaneously instated seconds or fractions of seconds. In this sense there is no moment which can be said to be just the next moment. Referring again to the spatial analogy used above, let one moment be represented by the line *ac* and a succeeding moment by the line *bd*, the points *a*, *b*, *c*, and *d* being disposed as before. As *ac* moves forward it is not suddenly replaced by *bd*; it glides into *bd*. There is of course such a thing as the experience of the sudden emergence of a new moment, as when a thunder clap breaks in upon us unexpectedly or when things which have continued for a while in our experience incontinently disappear. With such experiences of jerkiness I cannot deal in this paper. What I wish to bring out here is that such experiences are by no means the only kind we have. We often experience a continuity of the type exemplified by the continuously shifting scene of the railway passenger. Here attention may divide the continuity into a definite number of succeeding moments, which may or may not overlap. But between the high tides in the successive pulses of attention there are the gradual ebbs and flows.[1] This gliding character which marks the transition from accentuated moment to accentuated moment cannot be analyzed into something else.

[1] Still another feature of the moving moment should be noticed in passing: its posterior terminus is not always clearly defined. The rear of the present may melt into the past instead of having an abrupt termination.

It is experienced as something *sui generis*. It is an irreducible feature of time's nature, or what James would have called an "empirical fundamentum of our knowledge" of time's continuity.

I should like to borrow another of James's picturesque phrases to indicate what I mean. Time indeed does "grow by finite buds or drops."[1] But it should be remembered that of at least some buds and drops it cannot be said that either nothing comes at all or certain units of amount burst into being at a stroke.[2] Whoever watches a slowly leaking faucet with the drops forming and breaking away gets a typical experience of the continuity of time. The new drops do not come into being all at once; they grow, swelling visibly and lengthening out, they gradually thin at the top, and they fall away, each leaving at the instant of its fall the beginning of a new drop above. The drops may come faster and faster, but never so fast as drops but that the same process is repeated in a different rhythm. If they come too fast for their turgescence to be experienced they cease to be experienced as drops; they are lost in a stream, which still more clearly embodies the continuity of time. The mistake of James, I cannot but think, was that in the employment of this figure he regarded the growth of time as represented by the filling of a cask which receives the full-grown drops or receives nothing at all.[3] Time is not the cask under the faucet; it is the process of drop-formation and drop-deposition at the faucet. The cask, if it is to have a place in the figure at all, is past time, not the present. But even for the past the cask is, as we shall see, an inadequate symbol.

There is still another feature of time which must be noted before our description can be offered as a sufficiently adequate description of time for our purpose. Time is not only experienced as a continuous succession of events; it is a succession of events not all of which are successive one to another, for some events are experienced as simultaneous with each other.[4] In

[1] *Some Problems of Philosophy*, p. 154.

[2] *Ibid.*

[3] *Ibid.*, p. 172.

[4] This is of course empirical simultaneity, and will be later distinguished from another kind of simultaneity.

other words the comparison of time with a line fails to do justice to what may metaphorically be called the solidity of time. Time is not a line; it is a stream in which events stand in transverse as well as in longitudinal direction *inter se*. Simultaneity like succession cannot be defined; it must be experienced to be known. But when experienced it can be contrasted with succession, as being a temporal relation which is non-successive. Its contrast with succession can be compared with the interrelation of the different dimensions of space. The different dimensions of space are all but qualitatively indifferent in our experience; *i. e.* they are interchangeable. While right feels different from left and front from back, a turn of the body can reverse these directions. But by no tergiversation can the experience of simultaneity be changed into that of succession or that of succession into that of simultaneity. The directions of time permit no change of front.[1] Neither does the direction of simultaneity have what the mathematicians call different senses. The simultaneity of a with b has the same sense as that of b with a: the difference is merely verbal.[2] In calling simultaneity a direction we must be on our guard against supposing that it is on all fours with the two directions of succession or with spatial directions.

Now many events that occur at the same time occur at different places. For this reason it has been suggested that time and space are mutually complementary, in such wise that succession should be considered the fourth dimension of space, or the three dimensions of space specifications of temporal simultaneity. That time and space are intimately connected is indubitable; but there are two considerations that prevent a literal acceptance of this particular view of their interrelation. One is that there may be simultaneity of qualities without difference of spatial position, as when roughness and heat are experienced at the

[1] A motion of translation of the body, not one of rotation, will accomplish a change of empirical simultaneity into empirical succession or *vice versa*, as instanced in the lightning-flash and the thunder.

[2] The same statement holds for many other relations often treated as having different senses. Real difference of sense seems to belong only to asymmetrical relations.

same time in the same part of the same object, and the other is that there are differences in spatial position which cannot be stated in terms of simultaneity, as when the same body is in different places at *different* times. It will therefore better serve our purpose of empirical description if we distinguish quite sharply between simultaneity and spatial dimensions, while recognizing their mutual complications.

We are now in a position from which to advance to the question of the logical consistency of time as so far described, and to a view of time as transcendent of our experience while partly immanent in it. Time as I have set it forth will doubtless be assailed as involving contradictions. Such an assault will have various motives. Some persons may be inclined to accept the description as in the main accurate, and yet on account of alleged contradictions they may maintain that time is an illusion and not a reality. Some may on account of these alleged contradictions challenge the correctness of the description. In either case the likelihood is that logic will be considered as an unyielding uncompromising imperative. This view of the nature of logic would require much discussion to do it justice; and for the present I must content myself, even if I cannot content all my hearers, with indicating dogmatically my agreement with those who regard logic as a machinery which is not once for all perfect. Its limitations, therefore, do not permit it to put a bar to all further progress in the same direction when once something has been found contradictory. A new conception may render logically compatible what without that conception would be incompatible. Logical impossibility may be provisional as physical impossibility may be provisional. Just as only a few years ago it was physically impossible to send telegraphic messages except over connecting wires and yet to-day wireless telegraphy is an accomplished fact; just as what was impossible in mathematics before the invention of the calculus is now an easy feat; so in dealing with time what is logically impossible without some solving concepts may be thoroughly practicable for logic when these concepts have been put into service. The business of the logician is not to put a veto upon experienced

fact because of its self-contradictoriness, but to forge new concepts or apply old ones which shall remove the contradictions in our view of the facts. In our case I think it will be found that the desired concepts are not new; the trouble has been that their significance for the time-problem has not been generally recognized.

Experienced time I have already shown to be continuous in the sense indicated. This continuous time I believe to be a part of a real infinite continuum. And here we are face to face with what has been regarded by many as a hopeless contradiction, or rather a jumble of contradictions. You are all familiar with the dialectic in this matter, and I will not stop to rehearse the venerable arguments. I will merely attempt to state a view of the temporal continuum, a view which is based on the empirical description I have given, and which I venture to believe is not self-contradictory.

What is a continuum? It would be rash to attempt to define the indefinable, but at least we can describe some of its characters. In giving this description, I purposely leave out of account the number-continuum for reasons which I cannot here state. I shall have in mind only the continua of space and time. Both these continua are stretches or reaches, and the nature of a stretch or reach whether temporal or spatial is an ultimate fact incapable of analysis. It is something we experience. But in experience we get what we regard as only parts of stretches, there being more of either stretch beyond the limits of experience. The qualitative nature of either continuum is revealed in the portion which appears in experience; but what is revealed is only a portion. In short our view commits us to the position that a continuum is capable of partition in such a manner that the parts exist in the continuum without destroying its continuity. The partition of the continuum does not break it up into discrete fragments.

Before considering the temporal continuum let us take a brief glance at the continuum of space, for the nature of either is more clearly apprehended when it is compared with the other. The spatial continuum is not made up of parts; these arise by

its partition. The continuum is not a whole formed by the aggregation of parts; or, as Kant put it, these parts cannot be considered as antecedent to the one and all-embracing space, but can be thought of as existing only within it. The continuum is not a whole, for a whole in the strict sense of the term is something complete and rounded off. There is no reason to think that space is such; nor, so far as I can see, is there any contradiction in supposing that it is not such. A contradiction would arise only in case we asserted that a continuum is made up by an aggregation of its parts. In other words there would be contradiction only if 'part' were exclusively correlated with 'whole.' We must limber our conception of part and not allow it to remain in such rigid correlation with whole. Parts are sometimes parts of wholes, and sometimes they are parts of a non-total, unending continuum. The coming into being of parts of space by partition of the spatial continuum is not the coming into being of the spatial stretches found in the parts when the latter arise as parts; it is merely the demarcation of these stretches within the continuum. The stretches are already there as stretch before they are marked off.

What is said in the last two sentences does not hold good of the continuum of time; or in other words the temporal continuum cannot, like the spatial continuum, be expressed in terms of one tense. Of space we may say that it was a continuum, and we have uttered a truth that requires no qualification. We may further say that it *is* a continuum; this adds to what we have just said, but does not modify it. We may go on to say that it *shall be* a continuum; we then state an additional truth; but each of these three truths are truths without reserve and without mutual compromise. We cannot, however, make the three corresponding statements about time and have each statement true as it stands in its separateness from the rest. Perhaps the best we can do with the language at our disposal is to express the continuity of time by the use of the awkward hyphen. Time was-is-and-shall-be a continuum. The present moment parts this continuum, and only of this portion of the continuum can the present tense be used in its strictness. This part *was not* a

temporal stretch till the partition *takes* place. You will please pardon the unidiomatic sequence of tenses; it is not my fault; I am only trying to be true to time's nature. The past is not; it was. The future is not; it shall be. Only the present is; but it is *only as part of a continuum whose stretch included the past and shall include the future.* This temporal continuum—here I drop the past and future tenses for brevity—this continuum is eternity, of which only the present is extant.

This continuum is sometimes spoken of as a growing continuum. Such a mode of statement expresses a truth; but like all statements about time made in terms of one tense it is incomplete and therefore inaccurate. The *present* indeed advances at the expense of the future; it recedes to the gain of the past: the *past* has grown. Now as the only part of time's stretch to which we can strictly and empirically apply the present tense is the present moment, we must speak of time as moving forward, leaving more past behind: this is exactly what the present is always doing; and what the present is doing time is doing, the present being all there *is* of time. But time has been more than the present which loses; it shall be more than the present which gains. And of this time, infinitely vaster in either direction than the present, gain and loss cannot be predicated. Time has transcended the losing present; it shall transcend the gaining present.

With this insight we can do justice to both the eternalists and the temporalists. The eternalists have been right in insisting on time's transcendence of the present; but they have been—at best linguistically, at worst materially—in error in making this transcendence a *present* transcendence. The temporalists have been right in insisting on growth and novelty in time; but they have been in error in supposing that what shall accrue to the present shall be a merely adventitious, accidental accretion to time. The eternalists have apprehended the continuity of time; but, while discriminating past, present and future, they have yet regarded this continuity as a *totum simul.* In doing this the eternalists have been guilty of flagrant contradiction, or of an unresolved ambiguity in each of the terms used. The

temporalists have apprehended the tripartite nature of time; but they have been unable to see the parts as successively *together in the continuum.* To sum up by an historical allusion, the eternalists have reasoned or at least have expressed themselves like the Arians, the temporalists like the tritheists with regard to the really trinitarian character of time: Three tenses in one Time.

Once recognize that in dealing with time you are dealing with what was and shall be as well as with what is, and make the necessary distinction in thought even though you find it too cumbersome always to fit your language nicely to your thought, and you shall avoid many of the contradictions that have been charged to the conception of the time-continuum. Hereafter I shall not continue to defy usage by monstrously multiplying or cunningly selecting the tenses of the verbs I shall employ of the time-continuum or of its different divisions. I shall ask you to relieve me of the necessity of such pedantry by understanding my expression in the light of the preceding exposition. If what I have already said does not seem to you to solve the difficulties I have been dealing with, I can hardly hope to be better understood for constant reiteration. I may thus recaptitulate what I have been lately saying: Time differs from space in that what of the temporal continuum is not in one part of it, namely the present, *is not* at all: it either *was* or *shall be.* Of the spatial continuum what is not in one part *is* somewhere else.

We have seen that the present moment is a reach or a stretch; it is a duration. Now what is it that marks it off from the past and the future? Is the partition that demarks it something 'arbitrary' and 'factitious'? Such has been the charge that has been made. The reply requires that we should examine the concept of contemporaneity as distinguished from that of simultaneity. By contemporaneity I here mean togetherness within the same durational unit. For instance if the unit under consideration be a day, two events are contemporaneous when they occur within the same day. There may be an eleven-hours' interval between them, and hence they are not simultaneous; yet because they occur 'within the same time,' *i. e.* within the

same durational unit under consideration, I call them contemporaneous. This concept of contemporaneity is admitted by a critic of it to be no novelty. It should likewise be admitted that its age is no handicap. It should not be refused an opportunity to render service just because it appears at the employment bureau with hoary head and wrinkled face. In philosophy there should be no Oslerization.

Now time is divided into durational portions by the events which occur within it. Such division is neither factitious nor arbitrary. The fact for instance that time on our planet is divided into years, and years into seasons, and seasons into days, is a thoroughly natural fact. A natural cycle completes itself every three hundred and sixty five days or thereabouts. And within this cycle spring, summer, autumn and winter are not made by us to suit our purposes, neither is it by our arbitrium or our doing that the sun rises and sets. Our purposes may be connected with these divisions, but when they are they take into account natural divisions that we find taking place without our leave and without our fiat. There are of course arbitrary groupings of natural divisions of time, as in the calendar; what is more important is that there are natural divisions likewise. Any portion of temporal duration marked off by the beginning and the ending of any natural event is a natural durational unit of time, and there are any number of such units. Which units we shall use for any purpose is indeed a matter of our choice; but so long as the units are not constituted but are merely taken by our choice, being constituted by natural processes with natural terminations, the units are not arbitrary or factitious. We have here something similar to geographical units. The Mississippi flows between several pairs of states. The boundary it makes between Wisconsin and Minnesota, between Illinois and Iowa, is a natural boundary. The choice of the boundary for political purposes, indicated by the state-names, did not make it the natural boundary it is; it merely put into social use what had already existed. In like manner events that happen on the same day are not made contemporaneous by our choice of the day as a unit of reckoning; they are made so

by the fact that the events, independently of our choice, fall within the same natural time-divisions, marked off by successive sunrises and sunsets. They are diurnally contemporaneous, even if we do not choose to consider this contemporaneity but with equal truth speak of them as not contemporaneous because they do not fall on the same side of midday. It is the same old query as to whether a dog can be small relatively to an elephant when he is large as compared with a mouse.

Now among the natural events which have a time span, and are thus durational units,[1] the most important one for our purposes is the present moment. A certain extent of the temporal continuum is included in the organization which consciousness effects. This organization is as natural a thing as any other you can name. I do not will my present moment to be just so long as it is; I find it so. As far back as my present experience reaches, that stretch is my present,[2] as far forward as it reaches, that stretch is my present. Within this present, as we have seen, there is a prior and a posterior; but the prior is not past; the posterior is not future. The past is what is *prior to the present*, the future is what is *posterior to the present*, while the prior *within* the present is prior to what is therein posterior, and *vice versa*.

[1] There is one important difference between durational units, which I must emphasize here. One kind of unit is *as a whole* static and the other is as a whole a moving unit. A calendar year *e. g.*, has a stretch, which is partitioned off in the continuum; but this stretch has just one beginning and one end. It does not keep on beginning and keep on ending. Its termini are fixed. They are dates; when they are given, they are given *once for all*. Not so with the moving span or moving durational unit. The present, for instance, goes forward as a whole, with ever renewed termini. All durational units have movements *within* them; but the moving durational unit not only has movement within it; it itself moves onward in its totality. The present is not like a calendar year; it is more like an advancing sandstorm, which has a new beginning and a new ending for each place it reaches. But unlike the sandstorm it does not have to move *in space* in order to move: time is a sufficient medium for its motion. Losing and gaining, but perpetually reconstituting itself, its unity remains always intact as a unity totally and entirely present. Bergson has spoken of the continuous progress of the *past* which gnaws into the future and which swells as it advances. The view I am presenting would be expressed by speaking of the continuous progress of the *present* which gnaws into the future and leaves its cuttings behind. The past is left behind, or rather *was* left.

[2] Much of this paper consists in the statement of tautologies; I do not know what else to do than reiterate tautologies when others deny them.

Neither is the prior within the present prior to some *instant* which is *the* present *par excellence*. Of instants I shall have more to say presently. But now I shall anticipate somewhat and say that there never is *the* present instant: there are always at least two, the rearward and the forward termini of the present moment, the so-called specious present. The rearward terminus is as we have seen not always clearly set off on the continuum, and in this respect it is similar to the boundaries of experienced space. But there is no more reason to believe that the present does not terminate posteriorly, than that the rainbow does not terminate laterally, although we may not be able to fix by attention its precise outlines. Between the first and the last instants, terminating the present, there are likely to be others, equally *present*. Present instants there may be in abundance, but *the* present instant there is not. In practical life our interest is mainly fixed on the oncoming; there is thus a pragmatic reason for singling out the forward terminus, which is besides likely to be more distinct, as the present instant. No theoretical confusion arises from this provided it be recognized that all other boundaries between events lying within the present are likewise present instants. Perhaps I can illustrate what I mean by comparing the present with the water of a lake passing through a moving cylinder open at both ends. The water at any time in the rear end of the cylinder will represent what is prior within the present; the water in the forward end will represent what is posterior within the present. Both the posterior and the prior waters are in the cylinder, and all that is within the cylinder typifies the present. But there are many inadequacies in this illustration, some of which will be noticed in a few moments.

How far back the present can reach is not to be determined *a priori*. The present is elastic, contracting and expanding, and therein the rigid cylinder fails as an illustration. The backward reach of experience varies for instance with the spatial distance of the experienced object from the organism which is central to the experience. In these variations there are different constants, namely the different velocities of the eventual stimuli which give rise to the experience. The greater the velocity the

less is the temporal reach for any fixed distance at which the experienced object lies. This backward reach is backward not from the present but from the date of the organic disturbance the stimulus occasions. What we experience is therefore always present. But we usually speak of some experienced things as past, meaning thereby—we ought to mean if we do not mean—that they are prior to the organic disturbance involved in the experience or to something else which interests us in the present. For accuracy's sake it would be well, in speaking only of the things we actually experience or have experienced, to distinguish sharply between the past and the prior. The past, as I have before emphasized, is what is *prior to the present as a whole*, while the prior has as its correlative whatever event we may choose provided it lie in the forward direction from it in the temporal continuum.[1]

It is often said that the present moment has for us only a few seconds' duration. This is true only so far as events in our immediate neighborhood are concerned. When the events are remote in space, this duration is enlarged as we discover not by immediate experience but by secondary methods. The longitudinal cross-section of the present, so to speak, is not rectangular as that of a cylinder; it is a parallelogram, its rear angle obtuse to the line of forward direction; and it is not one parallelogram but many, with varying degrees of angular obtuseness, each parallelogram representing the objects present to one of the senses and all of them having a common base a few seconds long. The lag of perception can thus be pictured after the analogy of a many-tailed comet nearing its perihelion.

Our popular reckoning with regard to things we do *not* experience is secured by their ascertained relations of simultaneity to the objects we do experience. What is simultaneous with the experienced present is for popular uncritical unscientific thought in the real present. When, however, we discover the temporal lag of experience, we reckon as simultaneous with experience not all the things that are simultaneous with all experienced objects, but those which are simultaneous with some experienced

[1] I will later suggest another use of the term 'past' when properly qualified.

physical event in our proximity, as for instance the movement of the hands of a chronometer as successively pointing to index numbers on the dial. It is important, however, to note that here we have another meaning of the term present, different from that we have been employing. But failing to recognize this, we are put into perplexity with regard to the spatially remote experienced objects, which have heretofore been regarded as in the present. Many of these objects are long prior to the objects we reckon as present in the second sense. Now identifying 'past' with 'prior,' we proceed to speak of them as past, because they are indubitably prior to what is indubitably present in the second sense. We can avoid all appearance of contradiction and at the same time conform to the scientific use of the term 'past,' if we only distinguish between the physical (or scientific or mathematical) past and the empirical past. The physical past is prior to some empirically present physical occurrence, taken as the standard of reference, or to a number of such occurrences all physically simultaneous with each other.[1] The empirical past is what, having been experienced, lies behind the present span of experience, the present moment. *What is physically past may therefore without contradiction be empirically present.*

[1] I suspect that the source of the difficulty we have in keeping our notions of past and present clear is that we fail to bear in mind what I have called the solidity of time. Remembering this we should be able easily to distinguish between empirical and physical (or scientific or mathematical) simultaneity. Empirical simultaneity is the contemporaneity of experienced objects which are not experienced as successive, the unit of duration for this contemporaneity being any present moment. Physical simultaneity is simultaneity that results after discounting the differences due to different spatial distances and different velocities of stimuli, and after discounting also the 'personal equation.' Or to put it in terms of the parallelograms we used to represent the lag of perception, empirical simultaneity is the relation between events which lie on a line parallel to and lying between the sides of these parallelograms. Let us call any such line a line of empirical simultaneity. There is also empirical simultaneity among events in different parallelograms having the same base, *e. g.* the visual and the auditory parallelograms, when they lie on lines of empirical simultaneity which intersect at the base. Physical simultaneity is the relation between events which lie on any line perpendicular to the base. I may remark that such parallelograms are not merely imaginary ones conjured up for the purpose of a simile. They are real parallelograms of a hybrid constitution, having their bases in the temporal dimension of succession, and their sides in space. We touch here again upon the intercomplication of time and space, a subject which needs more study, perhaps with the aid of four-dimensional geometry.

The alleged contradiction is manufactured by the inflexible logician who is willing to operate with stiff categories alone, or to dole out just one niggardly meaning to any term.[1]

The reaches or stretches of space and time are, as we have seen, partitioned into parts. In space the termini of one-dimensional reaches are called points. The point does not *separate* one part of space from the next part. The next part begins *at the same point at which* the other ends. The adjacent parts are conterminous in the point which divides them. The point at which a part ends is not itself a part of that part nor of space, of which that part is a part. It is merely the *end* of that part. The point is indeed in the space-continuum, but it is not of the nature of the continuum; it has no stretch. "It has no length, breadth, or thickness." Hence space is not analyzable into points and a peculiar relation which holds between them. The alleged peculiar relation when identified turns out to be just space over again. Any finite line is indeed analyzable or distinguishable into length and the two punctual terminations of this length; but the *length* is not analyzable into points. No merely logical analysis of a line will give as result the infinity of points about which so much has been written of late in mathematics and philosophy. You can get points only by partition not by analysis of space. What so-called analysis does here is to suppose a line partitioned and repartitioned and so on without end. The termini of any possible parts obtained in this way are then offered us to contemplate as if they were analytical results. Logical analysis and geometrical partition are combined and confused in this procedure; the result is misleading. What arises only upon partition is regarded as having been there to

[1] This contradiction is not peculiar to time: a similar one can be trumped up for space. Let *abcd* be a parallelogram, *a* being the lower left hand corner, the base *ab* being relatively short, the sides relatively long, and the angle *abc* having a magnitude of about fifteen degrees. Draw a line *ef* parallel to *ab*, equidistant from *ab* and *dc*, and cutting the side *ad* at *g*. Let *i* be a point on *ef* just to the left of *g*. Now answer the question whether *i* is to the right or to the left of the parallelogram. It is obviously to the *right* of that part of the parallelogram which lies to the left of the perpendicular through *i* to the line *dc*. And yet we should all say unreservedly that it is to the *left* of the parallelogram, thus contradicting ourselves!

begin with, and what only upon partition yields points is supposed to be constituted out of such resultant points.[1]

What is true here of space is true also of time. Any natural division of time, such as that into years—with the exception of the moving durational units spoken of above[2]—results in successive parts which are literally next to each other. In the painful experience we shall have night after next of ringing out the old we shall likewise be ringing in the new year. There is no break, no interruption. The instant is a joint terminal of two relaying time-stretches. It interposes no interval between the two stretches; it marks them off without separating them. It effects a division without disjunction.

The analysis of time into uniquely qualitative instants with an asymmetrical transitive relation between them does not seem to take us one step forward. What is that relation between the instants other than time as duration, which was to be analyzed? What is the peculiar quale of the instants, distinguishing them from spatial points? If the quale is according to the theory of external relations to be found in the instants considered in abstraction from the relation between them I must report that I cannot find such a quale. The whole quale seems to reside in the distinctive *relation* between instants, and this relation is time as duration or a kind of stretch. What distinguishes time from space is not anything unique in the terminations of either; it is the unique kind of *reach* which in the one case is terminated in an instant, in the other in a point. An instant as a unique element to be obtained by analysis my analysis cannot obtain. For me the result is as if it were proposed to analyze duration into duration and something else not discoverable as described.

[1] Points differ from parts of space in that the stretch-character of the parts was in space before the partition took place, while the entire nature of the point consists in its being a termination of a part. Therefore the point comes into being only with the partition. *There are no points in undivided space.*

[2] This exception must be made because they are *moving* units. The present for instance has in one sense a next moment, that will have as its posterior terminus the instant that is its predecessor's anterior terminus. But before this next moment arrives, there will have been a continuous succession of moments no one of which is next each other: they overlap each other. Thus every moment has in one sense a next moment; in another sense this next moment is not the next. There is no mystery here; there is only difference of meaning.

When divisions are made in either the temporal or the spatial continuum, the *points* and *instants* which divide and connect the portions thus marked off are themselves *separated* from each other by parts of the continuum, by those parts namely which they terminate. No spatial point has a next point just because the point lies at the end of the line, and any other point lies at the other end of the line, which these two points severally terminate. The line may be redivided as much as you please; you will get as result a number of smaller lines, each lying as a stretch between its two terminal points. These points are intervalled by the stretches they terminate. But as we have seen the adjacent stretches are not intervalled by the point which jointly terminates them. Of the points thus obtained the propositions of modern mathematical analysis hold good; but such analysis does not tell us any thing about the nature of the space within which they lie, more than the fact that it admits of such points and that there are such and such relations among such points. Analysis deals only with the ends of finite spatial stretches, and the nature of space is in the stretch, not in the end of it. Hence modern analysis, when turned into a *metaphysical* account of space, is the play of Hamlet with Hamlet left out. Points are not *terms* of a spatial relation; they are *terminations* of spatial stretches. The same holds good of instants in time.

Our result makes it possible for us to give a brief evaluation of Bergson's treatment of time. We find ourselves in accord with him in his refusal to accept mathematical analysis as giving a true account of the full nature of time. And yet Bergson is mistaken in declining to recognize the existence of instants in time and the mutual externality of such instants. The temporal continuum is indeed not composed of instants; it contains moments which are continuous with each other in the sense that successive moments are not marked off from one another in such wise that one must have ended before another begins. The progression of the present is a continuous progression or a progression within a continuum. In Bergsonian terminology, the successive moments penetrate each other; they overlap. They do not come in discrete and disjointed

fashion, and the successive moments are not entirely external to each other. But there is a partial mutual externality in that the part of a preceding moment which is not part of a succeeding moment is external to the latter. Such externality is however compatible with continuity. While the temporal stretches in question lie on different sides of the same instant and are thus mutually external, the instant interposes no gap between them. Mutual externality does not mean necessarily an *externality between* mutual externals. Again, there is order in succession, else there were no dates, and dates Bergson himself must and does recognize. In time everything comes in its own turn. The mutual interpenetration is no confused jumbling. The melody to which Bergson so frequently refers has its distinctive character given to it by the order in which its constituent notes occur. Change the order and the melody is changed. A phonographic record of Schubert's Serenade played backward may give you some sort of music, but it is not the Serenade. The new qualities, however, such as tones acquire in the musical setting are not peculiar to the temporal order: in space also we have something similar in the contrast-effects of colors. A spatial redistribution of the colors on a canvas may give a different quality to each of the colors. In short Bergson's persistent attempt to differentiate time and space as one a non-externalizing continuum and the other a non-continuous externality fails. A continuum when partitioned becomes a medium of externality; the parts must be external to each other, else there were no partition. But partition does not mean separation by an impassable gulf.[1]

Bergson's capital error can best be brought out by showing how his illustration of change is defective. He invites us to "imagine a straight line of unlimited length, and on this line a material point A, which moves. If this point were conscious of itself, it would feel itself change, since it moves: it would perceive succession; but would this succession assume for it the form of a line? No doubt it would, if it could rise, so to speak, above the line

[1] If we had time to consider the paradoxes of motion we should likewise find a mixture of the true and the false, of the illuminating flash and of black night in Bergson's treatment.

which it traverses, and perceive simultaneously several points of it in juxtaposition: but by doing so it would form the idea of space, and it is in space and not in pure duration that it would see displayed the changes which it undergoes. We here put our finger on the mistake of those who regard pure duration as something similar to space, but of a simpler nature."[1] We think we can put our finger on Bergson's mistake. Why take a *point* which moves? Why not take a *line* or a geometrical *solid?* The illustration I should choose would be a diamond moving through a spectrum. It would feel itself change as it passes from one zone of light into another; and it would thus feel without having to rise above its line of march. Within its own moving length there would be room for the conscious play of change.[2]

But there is one modification of this illustration that is essential. The defect in it is the fact that the different spectral colors are already there and the jewel moves into what has been already existent; what it leaves behind still remains though left behind. Now suppose that the spectral colors arise as the stone passes through them and fade out as it passes them by. We have then a better illustration. But this illustration ceases to be a simile; it becomes an imaginary example. It presupposes just what it is meant to illustrate, that time is not space.

From all that has been said it will be seen that our experience of time has two aspects relevant to the appraisal of the temporal experience of the Absolute. Our experience is of events as before and after one another, and it is also an experience of new events and a loss from experience of old events. These two aspects are interrelated. It is difficult to see how an event can be *experienced* as after another if it did not *enter* the experience after the other. Temporal order is the order of occurrence; and to experience an occurrence as occurrence is to have it appear as

[1] *Time and Free Will*, p. 103.

[2] Bergson's present *is a point* in that it has no protension. But it is a point which moves without generating a line. Hence the past is always carried along in non-protensive form—except when his perception of reality gets the better of his intuition, as when he recognizes dates. Our past psychical life, for example, "survives—as we shall try to prove—with all the detail of its events *localized in time*" (*Matter and Memory*, p. 113; my italics).

a novelty in our present. The time-order in which experienced events *stand* is an order into which they *come*. Now the Absolute experiences the order in which events stand; but it fails to experience anything as novel or to feel any loss. Into the all-inclusive present of the Absolute nothing can enter: everything is already there. His time is therefore untimed time. The very entirety of his vision of time detemporalizes what he sees. Make the time-span as long as you will, still keeping it limited, and the time-experience may still be sobered by loss or vivified by hope of gain. Make it all-inclusive and it becomes an experience from which the differentia of our time-experience has been eliminated.

To look forward with bated breath or to stand on tip-toe of expectation; to strain our eyes for the first blush of dawn after our sorrows have endured through a long night; to watch by the bedside of a friend sick it may be unto death, and have our hearts rise and fall with each unforeseen turn; to be stunned by the blow that falls upon a beloved child prattling by our side—in short not to know what is before us and to have our horizon change; to wonder, to hope, to fear, to be surprised, to be cast down, to be uplifted by the unanticipated; to be swept off our feet by time's tumultuous rapids or to be borne into some delicious unsuspected pool sparkling in the sunlight—such are the crises in which for all of us the experience of time culminates. The Absolute can have no inkling of what lies on the inside of such experiences. To see all at once is to fail to feel the temporal sequence as genuinely temporal. The Absolute lacks experiential verisimilitude: our time is an unredeemed promise, an unwreaked threat.

As the Absolute has no genuine future, he has no genuine past.

> All things are taken from *us* and become
> Portions and parcels of the dreadful past.
>
> All things have rest, and ripen toward the grave
> In silence; ripen, fall, and cease.

But for the Eternal Experience, and also for Bergson, time is not a medium in which losses are sustained. From us, though the years may bring the philosophic mind, they have taken the

hour of splendor in the grass, of glory in the flower. The clouds that gather round the setting sun *do* take a sober coloring from an eye that hath kept watch o'er man's mortality. Of all this, in the feel of it, the Absolute of Royce and the Time of Bergson wot not. They lack experiential verisimilitude: our time is relief and regret.

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THE PROBLEM OF KNOWLEDGE FROM THE STANDPOINT OF VALIDITY.[1]

(Second Article.)

WE have already before us a number of propositions relevant to the problem of knowledge. Of these the first is that for purposes of inquiry knowledge be considered as a fact. In the second place it is important that the nature of this fact be not obscured by the prejudice which would identify knowledge uncritically with the scientific. Reasons have been given for the view that in determining the relation of knowledge and science we should take the former concept as generic and the latter as a difference within the former. Lastly it has been shown that among the characters which distinguish knowledge is one—that, in fact, which gives direction to the problem—validity, of which the significance extends far beyond the sphere of knowledge as such. Æsthetic and moral values are determinable by a form of validity specific to each province; and since the argument compels us to conclude that these values are knowable (although they derive nothing of their validity from the fact) it follows that in this department of knowledge (that, viz., which has to do with moral and æsthetic values) we have a close parallelism between the different, mutually-irreducible kinds of validity.

With regard to the first point it is clear from the ultimate failure of Kant to support his original premises that much depends upon the success of the attempt to specify the meaning of knowledge as given. That knowledge is given in the established sciences need hardly be disputed. But the general conditions of knowledge can never be determined by reference to the specific presuppositions of any limited group of the latter; and it is impossible to interpret *the given* in knowledge in the

[1] The first article of which the present is a continuation, appeared in the January number (1914) of the *Review*. A third article will follow during the present year.

sense of *the given sciences*. That is to say, even granted that the sciences are given knowledge, there is more knowledge given than is to be found in them.

The assumption of knowledge as a fact, required by the conditions of the problem, is thus seen, when unfolded, to lead to the second position—viz. the further demand that the distinction of the scientific and non-scientific be taken to determine knowledge not as a differential character but as a dichotomous division within the general concept. A question which arises at this point is whether, putting aside for the moment the knowledge which is non-scientific, we are entitled to consider the scientific character as ipso facto an indication of knowledge. This of course would be answered in the affirmative by those who maintain the identity—although the answer would fall short of their position, which requires rather the characterization of knowledge exclusively in terms of the scientific character. Conceding the minor demand and admitting (a somewhat generous assumption) that the scientific as such (and therefore that all that is scientific) is knowledge, we are now able to formulate in concise antithesis the position from which the problem will naturally advance. On the one hand: *Scientific, therefore knowledge;* on the other: *knowledge, yet unscientific.*

The form of the antithesis as well as the general position of the problem, as historically developed, suggests that the onus probandi will press most heavily upon the second possibility. It is the unscientific which is yet knowledge that will call for demonstration. The points to be avoided are at least determined for us.

First we must not refuse to accord a place in knowledge to the supposed "elementary" forms of experience. If (the last of our three general conclusions) the problem of knowledge is a specific development of the problem of validity, the *αἰσθήσεις* which, if they are granted at all, must be on every theory whatsoever and from every point of view acknowledged in some sense *κυριώταται*, cannot be excluded from *γνῶσις*.

In the next place, if the distinction of the scientific and the non-scientific is to be maintained in any real sense, it will not do

to make the epistemological value of the latter entirely dependent on that of the former. In other words, we must not interpret non-scientific knowledge merely as an imperfect or incomplete form of scientific and as owing its validity exclusively to this character. The Greek tendency to emphasize the distinction by cutting out the actuality of sense experience from the realm of knowledge altogether is not more unsound than the modern tendency to absorb one member in the other. Of course it is not contended that an 'ordinary' fact or rudimentary piece of experience owes nothing of its significance as knowable to its capacity for scientific interpretation, but only that it does not derive its character as known from such capacity. And it must be added that great difficulties underlie the assumption that in the profoundly obscure transition from experience to science what we have is our ordinary unscientific knowledge—only more of it and better known. Rather, having regard to the indisputable fact that the transition involves loss as well as gain, it seems not unwarrantable to interpret the nature of knowledge in general as genuinely bi-polar—the non-scientific extreme being signalized by its own intrinsic limit or superlative, whether in the form of κυριώταται τῶν καθ' ἕκαστα γνῶσεις or in some other form. Clearly if we are to accord any meaning to the Aristotelian phraseology in this instance, we are dealing with a kind of knowledge the validity of which is not to be defined in terms of an imperfect approximation to the scientific limit.

The uncritical identification of knowledge and science has been promoted by the reduction of all apprehension to a single type of synthesis, which is manifest alike in the most rudimentary act of recognition and in the most advanced scientific combinations. The further interpretation of this idea which is necessary in order to give it application to the epistemological problem is that the true judgment, which presumably constitutes the form of knowledge, always in the last resort implies the union of a de facto sense element with a genuine ideal qualification. What exactly this latter signifies will be made clear in an instant. But in the first place it must be remarked that the insuperable difficulties to which, as will be shown, the view gives rise, so far

as epistemology is concerned, are probably traceable to a confusion between the conditions of validity (that is, the conditions which determine whether a judgment will hold) and the conditions of apprehensibility (such, *e. g.*, as intelligibility and consistency) which precede the question of validity and prepare the judgment for the latter.

For the view that the nature of knowledge is to be found in the ideal qualification of experience it is natural to turn again to Kant. The expression "genuine ideal" has been chosen to represent a demand which he makes of the strictest knowledge, but which he does not succeed in formulating without confusion. When Kant raises the problem of knowledge in connection with the question whether knowledge is to be found in metaphysics, he is obviously guided by two considerations. The knowledge of which he is in search must on the one hand possess the certitude of demonstration, and on the other it must represent actualities, (and for Kant the actualities of knowledge are determinable only in experience) not ideas.

Now in accepting mathematics and the mathematical sciences as the type of what he desired, Kant is misled at various points. In the first place, even granting that he is right in maintaining the intuitional as against the abstract formulation of the mathematical object, the correction does not help him to the extent which he supposes in the task of uniting the actual of experience with the demonstrative character of the a priori. The mathematical object is defined as the *formal* intuition, which there can be no mistaking for the empirical. If therefore the science of mathematics is to furnish the type of real knowledge, it will be necessary to conceive the formal intuition as intuited, in the sense of being actually experienced; and this of course, as has been indicated, is an impossible demand. Only in one particular are the two identical. It is the same space which conditions them both and which they both define. From that there can be no escape; and for this reason, in spite of the fundamental ambiguity which now appears in the term, it is impossible to find any other designation for the non-empirical object of mathematics than that of the formal *intuition*. The contention, however,

that mathematical truth derives its demonstrative character from the fact that we construct its object a priori according to a rule must now be understood in a purely ideal sense. That is to say, the construct in question is an ideal character, not presentable even in the imagination, far less in the actuality of an experience.

When Kant latterly concedes the ideal character of space as opposed to the original notion (in the "Æsthetic") of an infinitely extended given whole, the reference is obviously to space as "die Form der Anschauung" and not to "die formelle Anschauung." But it is equally apparent that the formal intuition is itself in the nature of an Idea of Reason. Mathematical objects, the line, the circle, etc., as well as the relations in which they stand (such, for example, as equality) are all absolute and limiting cases, determinable presumably by an extreme application of the laws of homogeneity and specification—themselves acknowledged to rest upon Ideas of Reason.

A further feature in the Kantian presentation which, if not in itself a confusion, seems indicative of one, is to be detected in the tendency to conjoin the ideas of universality and necessity. No doubt this is in a sense legitimate; but it helps to conceal the extent of the divergence between the knowledge of experience and mathematical knowledge, by seeming at times to characterize the difference as that between a proximate and an absolute universality. As a matter of fact the question of extension has very little bearing on the point. The plurality of which ideal mathematical objects admit is as indefinite (though in a different sense) as that of any empirical order or kind; and there is no more force in interpreting the uniformity of structure in the sense of a universality of instances than there would be in claiming epistemological preference for the latter.

We are here concerned with the Aristotelian *μαθηματικά*, which we have good reason for identifying with the Platonic "intermediates," constituting, it is almost certain, the third division in the similitude of the line.[1] But the mediatorial

[1] This view proceeds on the assumption that Professor Jackson's theory (*Journal of Philology*, Vol. X) is not tenable.

character of these μαθηματικά is almost too obscure to help us materially in the transition from sensation to knowledge. Mathematical objects on the one hand, it is true, are completely determinate in their character. On the other, they may be conceived to constitute a plurality of uniform natures. Of what avail is this fact for the content of mathematical science? It is only in the realm of experience and the experiential sciences that crucial issues in knowledge may turn upon the universal character of a plurality. The epistemological significance of universality is always lost before we reach the region where universality can be established on principle. Or, we might say, the notion of plurality as involved in the problem of knowledge varies fundamentally in significance. Where its significance is (or may be) crucial (viz., in the realm of experience) it appears chiefly in the form of a problem: where the problem admits of most adequate solution it is found to be of least significance. Not until mathematical science can with reason pretend to answer the questions of experience in the sphere of validity are we entitled to assume the former as an available intermediate between experience as such and the ultimate issues of knowledge that arise out of the latter. Of course it is not intended to deny either the connection itself or the importance of the connection between the judgments of actual experience and the formulation of demonstrative scientific truth. The point here is that having regard to the question of validity (the question at issue) we cannot pretend to understand the connection and that the grounds on which a meeting-place was sought for the empirically real and the demonstrably certain are themselves demonstrably invalid. It is doubtful whether and how far an experiential datum is *ever* capable of ideal qualification in the absolute sense; and it is a serious question whether a genuine ideal is ever really predicable of anything but an idea.

These conclusions are not affected by the undoubted existence of sensitive relations of some sort between the two poles of knowledge—where, for example, on the one hand, purely demonstrative science employs the objects of experience in order to reach ideal conclusions, and, on the other, the knowledge which begins

and terminates in the *de facto* of experience frequently passes from the one limit to the other through a succession of purely ideal terms.[1] Or again we are confronted with the remarkable case in which the same piece of knowledge seems to reduplicate itself in mathematical and experiential terms. The center of gravity is a mathematical point, determinable by purely mathematical considerations: at the same time it is a physical and physically significant character in an actual material body, determinable by experiment. Compelling as such instances are, they must be regarded from the standpoint of validity as indicating a problem rather than a conclusion. Even in the sphere of causal relation, which, as Kant rightly maintained, involves the union of a conceptual form and an empirical content, it would be difficult to show that, where general propositions are concerned, the reference is ever to fact not already in some sense idealized, or that our judgments can truly be expressed in any but a hypothetical form.[2]

If the right construction has been put upon these enigmatic instances and we are correct in maintaining the bi-polar character of knowledge, the way seems open for certain conclusions as to

[1] It is worth while noticing the qualifications under which Kant introduces the relation of experience to the Ideas of Reason—the asymptotic nature of the approach to the latter, their *undefined* validity, the fact that it is *a possible experience* for which they furnish rules—although at the same time they act as heuristic principles in the elaboration of an actual experience. These various features are found together in the following passage. "Was bei diesen Principien merkwürdig ist, und uns auch allein beschäftigt, ist dieses, dass sie transscendental zu sein scheinen; und ob sie gleich blosse Ideen zur Befolgung des empirischen Gebrauchs der Vernunft enthalten, denen der letztere nur gleichsam asymptotisch, d. i. bloss annähernd folgen kann, ohne sie jemals zu erreichen, sie gleichwohl als synthetische Sätze *a priori* objective, aber unbestimmte Gültigkeit haben, und zur Regel möglicher Erfahrung dienen, auch wirklich in Bearbeitung derselben als heuristische Grundsätze mit gutem Glücke gebraucht werden, ohne dass man doch eine transscendentale Deduction derselben zu Stande bringen kann, welches, wie oben bewiesen worden, in Ansehung der Ideen jederzeit unmöglich ist."—*Krit. d. rein. Vern.* "Anhang zur transscendentalen Dialectik," B. Erdmann's fifth ed., p. 498.

[2] This view will suggest a direct contrast to Schopenhauer's theory of causality, which insists that the causal relation has to do exclusively with the immediately present in space and time. The point of the contrast is that Schopenhauer naturally locates the causal relation (interpreted as given in an intellectual intuition) at the opposite pole from that to which it would belong if interpreted as tending, in the Kantian sense, to an ideal universality.

the form the problem will now assume. Taking as the generic concept in our definitory formula the idea of validity we should naturally seek to determine the differentiating character which separates the validity of knowledge from validity in general; and this in effect would probably amount to distinguishing the concept of valid knowledge from that of validity in other specific senses. It is beyond the scope of this paper to discover exhaustively and exactly either the genus or the differentia required. But certain distinctions ought to be indicated.

Since responsibility is held to fall only where knowledge is present or possible, knowledge must be allowed some sort of determinative force (at least that of a condition) in the moral universe. On the other hand, from the standpoint of validity, strictly considered, it is impossible that the specific quality of knowledge or of knowability should be at the same time the specific quality of moral value as such. Kant's argument for the purity of the moral concept will hold against the intellectualistic as well as against the hedonistic formulation of ethics.

Again, just as knowability is a condition of the effectuality, but not the real differentia, of moral value, so there is a moral factor involved in knowledge. This factor may be expressed in various ways. Thus it is or may be a duty to seek knowledge. In this case the acquisition of knowledge appears as the object or content of moral endeavor. Furthermore the condition under which knowledge is attained may be and constantly is the universal condition of moral effort. The credit which redounds to the man who succeeds under this condition is of course in part moral credit. It is obvious, however, that the value represented in these aspects of the case is something intrinsically distinct from the epistemological validity of the knowledge involved.

In the same way it will be found impossible to reduce the character of epistemological validity to what is peculiar in the non-moral forms of good. These may be summarized under the heads of utility and æsthetic value; but, although knowledge can be brought under both categories and both are conditioned by knowability, neither the one nor the other constitutes the specific quality of knowledge. Of course there is a knowledge

of what is useful, as there is a knowledge which distinguishes what is useful from what is not; and such knowledge is itself useful and a condition of the effective realization of other utilities. But the knowledge of what is useful does not warrant us in generalizing the utility of knowledge, far less in identifying the utility of which knowledge is a condition with the validity which constitutes knowledge what it is. And if it is the nature of a utility to be always relative to something beyond itself, it is seen how little applicable this designation is and how much more truth there is in the Aristotelian view that connects the character of knowledge in the end with the ultimately fundamental distinction of the practical and the theoretical.

Again, the relation of æsthetic and epistemological values is somewhat analogous to the relations which have been considered. Knowledge and its opposite may be legitimate subjects of æsthetic judgment; but from the standpoint of their peculiar validity they gain nothing from the connection. In the same way æsthetic value involves knowledge of the beautiful, but is not reducible to the character which makes such knowledge valid. Rather, we must suppose, the validity of knowledge in the sphere of æsthetics implies the correct apprehension of a sort of judgment which has to do with a completely independent standard of values.

From these negative conclusions it is difficult to derive much in the way of a positive characterization; but it may not be lost labor only to have made good the claim of knowledge to represent *the strictly theoretical form of validity*. It may be objected that such a definition fails to distinguish knowability from thinkability. The reply to this is that while the distinction is thoroughly valid, it is important to see that we realize exactly wherein the distinction consists. The point is that while the content of what is thinkable may not be knowable under certain categories—the existential category, for example, or that of actual experience—the very fact of thinkability (and a fortiori that of necessary thought connection) implies the element of knowability and actual knowledge somewhere. In this case there can be no valid thought that does not at the same time imply

valid knowledge—the condition of realizing this with exactitude being (as will be shown later) the ability to eliminate the subject and predicate really involved.

With this partial definition of epistemological validity in view, then, a special feature arising out of the present inquiry must now be noticed. The concept of validity, like the concept of knowledge itself, will, on the present hypothesis, be determinable by the capacity to include under an identical formula the difference of the scientific and the non-scientific. The question therefore to be answered will be: What is implied in a validity which can be predicated in the same sense of the knowledge present in an actual experience and the demonstrative knowledge never realized in experience at all?

It is possible in a few words to indicate some of the features relevant to our inquiry and involved in the question. In the first place, if we admit the independent validity of a knowledge present in experience but non-scientific in character, this of itself suggests that the validity of such knowledge will be measurable by its capacity to sustain meaning other than the meaning of scientific interpretation or reinterpretation. The condition here demanded might be brought under the heading of two summary questions: (1) How can I know the object present before me without knowing it in a scientific manner? and (2) How can I have a scientific knowledge which is yet not a knowledge of the object actually presented to me?

To begin with, no epistemological advantage will be claimed for particularity; and so far as experience is concerned, it may as well be made clear that the view taken of it is the ordinary one that if it contains knowledge it does so in virtue of its power to unite a universal element with the particularity of actually experienced sensation. On the other hand the mere combination of the universal and the particular (which may be regarded as a minimal requirement in knowledge, equivalent to the Aristotelian dictum that the question of truth first arises in the judgment) does not entitle us to establish any real unity of type between the knowledge of experience and the knowledge of science.

In exhibiting the continuity of knowledge, idealistic theories have not given sufficient weight to the different modes in which the universal is applied. The particular experience which, when analyzed, is found to be already universal, is not so in the sense in which universality is claimed as the distinguishing character of scientific knowledge. In place of a uniform type (embracing the whole range of epistemological values), there are three significant moments to be noticed. First there is the investiture of the experienced object with universal significance. Under this heading may be included all that is covered by the terms acquisition of meaning, complication, recognition, classification. Now it is true that the processes indicated by these terms are just the processes by which science in some of its developments advances, and are perhaps in their psychological aspect involved in a uniform manner in all knowledge whatever. But it has been pointed out that uniformity in the process of apprehension does not imply uniformity in the conditions of validity. And, if we take the terms referred to on the side of their objective significance, it will be found that there are important differences to be reckoned with when we pass from the immediacy of experience to the general aspects of the latter and from these to the demonstrative sciences.

To follow the line of our previous argument—the first difference might be indicated by pointing out that so far as the question of validity is concerned the significance of the judgment of experience at the particular level turns upon the right of the individual subject to accept a certain universal or conceptual qualification. There is here no question of universal *propositions*. And upon examination it appears that the designation of the predicate in singular judgments as universal is a somewhat artificial expedient, the point at issue being not so much that of finding membership for the subject in a uniform plurality as of finding significance for the individual experience. On the other hand and secondly, in the case of what we might roughly classify together as the generalizations of experience and the non-demonstrative sciences, the universality of the subject or of the proposition as a whole may very well, as we have seen, be the crucial point on

which the question of validity turns. In the third place when we come to the demonstrative sciences the universality of the subject or of the proposition (though in this case still a possible method of characterization) has lost all significance for the question of validity and is rather a corollary of the latter than the point at issue.

These conclusions enable us to give some sort of answer to the two questions regarding the possibility of a distinctively non-scientific and a distinctively scientific knowledge. The non-scientific knowledge, of which there is undoubtedly a certain amount present in experience as such, is independent of all questions relating to the validity of universal judgments. The only point involved is the interpretation of the object present in experience; and this in turn we have seen to imply not so much the finding of a place for the object in a universe of similars as the significant designation of the presentation itself. There is more in the distinction than might appear. The condition of knowability in such cases is really to be found in a certain proportionateness of the interpretative to the presented element. No exception need be taken to the ostensibly mechanical separation of the two elements implied in the idea of a proportional relation. Admitting, as we are bound to do, the complete saturation of the sense datum with ideational significance, this does not prevent us recognizing within the experience a limit inside of which interpretation is safe and beyond which it loses the secure character of knowledge. There seems to be no way of accounting for this transitional quality in the epistemological value of our significant experiences other than that of attributing it to a difference in the mutual adaptation of the presentational and ideational ingredients. If this is so, then, as has just been said, we have here at last a condition of knowability in the province referred to; and all that remains is to examine the general factors that determine where and how the transition shall occur.

The most obvious consideration is the fact that the limit is far from fixed, being both indefinite and changeable. Advancing knowledge tends to carry the boundary line with it. But this will have no effect upon our conclusions which are of

the most general nature, and will hold independently of such variations. Nor must it be forgotten that the whole tenor of the argument has been to show that there is a kind of ideational qualification (that which we have designated genuinely ideal) which in any case cannot be regarded as in any intelligible sense applicable to the de facto presentations of experience.

A convenient way of finding the limit within which experience, as uniting a sensational and an interpretative element, may be considered to possess the sure character of knowledge, would be to take a typical case of error or uncertainty—that is, an instance in which interpretation has proved incommensurate with the datum presented—and, eliminating the disqualifying features, to trace back the experience to the rudimentary form of which there can be no uncertainty because it constitutes in this case the positive basis both of doubt and of error. Here at least in some sense we can claim to know.

The usual view of such knowledge, however, gained by elimination, is that it is too wanting in import to call for consideration. If this is so, the position is serious in view of the stress which has been laid upon significance as an element in knowledge. The difficulty has the merit of directing attention to a distinction which cannot be passed over here, but which, unfortunately, appears to possess all the character that makes for irreconcilable division of opinion.

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THE STANDPOINT OF PSYCHOLOGY.[1]

THE problem of the standpoint of psychology is a perennial one. Here at home it has been under almost constant consideration for a quarter of a century; the presidential addresses delivered before the Psychological Association have frequently contributed to its discussion; it has already been considered in a joint session of the two associations present today; and it is a subject that will doubtless occupy the mind of our successors as long as interest in the nature of mind continues. It might at first sight appear that this question is one that concerns psychology only, that the problems involved belong solely to the technique of that science and are to be decided exclusively by considerations of convenience and utility in the course of its detailed procedure. It is undoubtedly true that it is impossible to prescribe in advance the methods to be employed in any inquiry. The mode of hypothesis which may be found essential at any particular point, and the provisional abstractions to be adopted, are questions that can be determined only in the light of the special problems under investigation. But it is possible to make a distinction between such problems of special method and the question regarding the general aim and standpoint of a science. In the case of the physical sciences, the general standpoint and logic of their procedure is definitely formulated in the series of propositions that we know as the mechanical theory. In developing consistently this standpoint, these sciences abstract from all individual differences and qualities, reducing physical phenomena to relations existing between quantitative units. This mode of inquiry has for its object the precise formulation of certain *general* aspects of the material world that are regarded as fundamental for the purpose in hand. The result is found to apply to particular physical

[1] Read as part of a Discussion before a joint session of the American Psychological and Philosophical Associations, January 31, 1912, at the New Haven meeting. A number of changes and additions have been made.

things with sufficient accuracy for practical purposes, but it is not, and is not intended to be, a direct description of individual things.

Now when we approach the problem of psychology, there are two questions that may fairly be raised, which are not at all questions regarding special method or technique. Would results analogous to those obtained in the physical sciences satisfy the interests and legitimate demands of psychology? That is, have we a right to ask from psychology anything more than an exact account of the general conditions of mind expressed as quantified terms and relations? The second question is whether the difference between mental life and physical reality is of such a character as to render an identical, or even closely analogous mode of treatment impossible in the two cases?

In attempting to answer the first question, I think it must be admitted that a genuine interest leads us to demand a formulation of the *general* nature or conditions of mentality, and also that this formulation shall be expressed in the most accurate terms possible. The purpose of such laws, assuming that they can be obtained, would seem to be identical with the laws of the physical sciences: they are primarily instruments for the control and prediction of behavior. But quite apart from the question whether general psychological laws can be applied to individual cases with anything approaching the certainty that obtains in the case of physical laws, it cannot be maintained that psychology has no other interest or goal. The primary psychological interest, I venture to believe, seeks to understand *individuals*, our own mind and those of others; and to understand individuals is to know them from the inside as centers of experience. When, on the other hand, we speak of the 'phenomena' of the physical sciences, the word connotes precisely the fact that the objects dealt with are not taken to possess any inside center at all: their 'value,' is extrinsic to them, being derived from the initial assumptions and hypotheses of the inquiry. Now, assuming for the present that general laws of the same type as those of the natural sciences can be obtained in psychology, it is important to recognize clearly that here as there abstraction is the price

that has been paid for the exact form of the result. In psychology, moreover, we appear to leave out of account just what is most essential and significant: we abstract from all individuality and treat the person as a series of phenomena. It is worth noticing in this connection that from this point of view the central principle, the self or ego, is excluded by *a priori* considerations, not on empirical evidence. There cannot be any such principle, just because the standpoint is committed in advance to deal only with existences or 'phenomena' of the type already described.

Now, at a later point I shall raise the question whether any such a natural science of mental states is possible, whether all such assumed general psychological laws are not at bottom cases of physiological uniformities. Whatever may be the answer to this question, I am here insisting that laws of this type do not exhaust the possibilities or satisfy all legitimate demands of psychological inquiry. There is a form of intelligibility of a different type from that afforded by the logic of the natural sciences. That the latter type of uniformity alone can form the basis of science was, indeed, the assumption that led Kant to his limitation of knowledge to phenomena. But the historical significance of Kant's work consists precisely in the fact that he made evident the necessity of categories that lay outside his own formal table.[1] The same logical assumption also underlies Bergson's sharp contrast between Reason and Intuition. But against any such theoretical limitations of 'knowledge' or 'logic' as Kant and Bergson assert, one can always point in reply to the form of intelligibility actually attained in history and the kindred group of sciences, in other words, to the achieved logic of the century that has elapsed since Kant's death. It is an anachronism, then, to maintain that a science of psychology demands the discovery of uniformities *of the same type* as those of the natural sciences. To comprehend the world of mind, the realm of experience, is to discover the universal in the form of *individualized experience*. And such a universal cannot take the form of a quantitative uniformity, or abstract concept. What is sought

[1] Cf. Creighton, "The Copernican Revolution in Philosophy" in this *Review*, Vol. XXII, pp. 133 ff.

from this point of view is the 'idea' or concrete form of the mind, a form of universal that permits of and indeed presupposes different opposing yet mutually complementary individuals expressing themselves in diverse purposive systems. Moreover, this 'idea' of mind as a concrete universal is not a formula that has eliminated time, or that refers only to a cross section of mind at a particular moment, as is true of the 'natural science' type of uniformity. It is concrete in the sense that it looks before and after, comprehending the 'idea' that unites the different stages of a developing process. It is insight in terms of such a living mind that is presupposed in most of our concrete dealing with our fellow men. It is explanation from this point of view alone renders history intelligible to us. Moreover, it would appear that psychology of this individualized form is needed both as a guide to educational practise and to the efforts directed towards social improvement. Whenever and wherever the interest is in *human* relationships, the 'phenomenal' or 'natural science' categories are incapable of expressing what we want to know; only a psychology of real human beings can afford light or practical guidance in this type of inquiry.

It appears necessary, therefore, to recognize that there may be two, or even several distinct methods of investigating the mental life, the standpoint and procedure in each case being determined by the purpose that underlies and guides the investigation. The question of course still remains as to whether all these are to be called 'psychology,' and if not, which form of inquiry may with best right claim the name. Miss Calkins has long contended for the 'double standpoint' in psychology; and Külpe has lately suggested the possibility that psychology may in the future be divided into two branches, one type being more closely connected with the physical sciences, and the other belonging more distinctly to the mental sciences.[1] It is evident that no complete agreement on this whole subject has yet been attained; but it would nevertheless appear that we have reached a

[1] I have not seen Külpe's article "Psychologie und Medizin" (*Zeitschr. f. Pathopsychologie*, Band I, 1912), but have taken this statement from F. Hillebrand's paper in the *Zeitschr. f. Psych. u. Phys. d. Sinnsorgane*, Band 67, p. 18.

stage in the discussion where there is something approximating to consensus of opinion on certain important points. The discussion has led us to see that the natural science standpoint has no exclusive or superior claim as a method of studying the mental life. And, secondly, it has impressed upon us the necessity of recognizing clearly the aim and purpose of the different modes of inquiry in order to avoid the errors that arise from a confusion of categories. Moreover, I think that we demand more emphatically than formerly that the results obtained by any method shall have some concrete significance. To decide what constitutes concrete significance may be a point upon which it would be difficult for us all to agree; but we do recognize that psychology, like all the other sciences, has a social responsibility for the character of its results. These agreements would seem to constitute a long step in advance; indeed, something like a new era in the history of modern psychology.

The second question that I have proposed concerns the possibility of an existential science of psychology, that is, a science based on the ideal of intelligibility that obtains in investigations of the phenomena of external nature. What does a natural science of mind presuppose? It presupposes that mind is an existential mode of reality, a stream of actually existing conscious processes or states, temporal though not spatial phenomena, which can be found embodied at a particular moment in a form as definitely assignable as that which belongs to the objects of the physical world. This general mode of thought, together with the notion of elements, and the type of analysis which this notion carries with it, are all included in the doctrine of psychology as a natural science. As is well known, the term that plays the major role in this type of system is sensation, so that it is customary to speak of this account of mind as sensationalist psychology. Now, without referring to any of the special difficulties to which this standpoint gives rise, or dwelling upon the fact that there are fundamental disagreements among those who hold it as to how the elements and relations of the mental life are to be represented, it seems possible to question the whole set of assumptions on which the standpoint rests. Psychologists

have a favorite method of discounting results that differ from their own: they suggest that these are evidently 'logical' constructions rather than genuine psychological observations. Now something may be said on occasion both for observation and for logic; but does either one or the other support the doctrine of mental states as modes of existence?

If appeal is to be made to observation, the question is whether introspection actually discovers an inner world of existing phenomena. This question is not a new one, but in one form or another has been raised on many sides. In a paper read before the Philosophical Association three years ago Professor Woodbridge argued against the common view of the reality of sensations. And a similar view was suggested by Professor A. E. Taylor in the joint discussion between our Associations at Cambridge eight years ago. Mr. Taylor, while maintaining the affiliation of psychology with the natural sciences, said: "If we are to hold rigorously to the distinction [between individual and over-individual objects], must we not at least lay it down that there is no such a thing as the psychology of cognition since the immediate objects of cognition (sense-qualities, physical things, memory images, universal concepts) are all *ueberindividuelle objekte*, while, as to the unique processes by means of which individuals cognize these objects, it may at least be doubted whether careful introspection reveals certain evidence of their existence; *i. e.*, it may be that what we call the psychology of cognition is a mere temporary stepping-stone to the cerebral physiology, on the one hand, and the logic, on the other, of a more scientific future."[1]

The point of the objections that are being brought against the natural science type of psychology, as I understand them, is directed against the account of mind in terms of existing inner processes or objects. The reality, not of the mental life, but of its alleged existential modes, is called in question. Existential science, it may be maintained, finds its limits in the physiology of the nervous system; since the most careful observation fails to find any world of inner objects that can be analyzed and

[1] *Philos. Rev.*, Vol. XV, p. 384.

related as are the objects of the physical order. The life of mind is a realm of judgment, value, and appreciation, a life of activity and interpretation. The description of the mind in terms of psychical objects is a pure fiction, the result in part of carrying over and duplicating internally the various attributes and aspects of external objects, and in part of representing the phases of our internal experience in symbols analogous to those which we employ in describing these objects. This criticism of the ordinary psychological standpoint goes farther than the contention of Bergson that the inner life has been distorted by the assimilation of time to space; it separates in a still more radical way the life of mind from outer objects by denying the relevancy in the former sphere of the entire existential point of view. That is, Bergson does not go farther than to maintain the continuity and non-mechanical character of the mental life, leaving it to be conceived as still possessing some kind of a temporal mode of *existence*. But the reality of the appreciative life does not base itself upon existences of any sort, whether continuous or discontinuous. To be in consciousness is *eo ipso* to be judged, interpreted, used. There is therefore no meaning in the metaphor of an existing state or image as a necessary *prius*, or 'bearer' of a meaning. Meaning is not a secondary intention, as it were, of the mental life: experience when taken directly and concretely is itself made up of purposes and values. It is of course impossible here to do more than indicate the nature of the issue. But one must admit that psychology has no longer an unchallenged right to the claim that introspection reveals an inner world of existing states of consciousness. The evidence of the professed expert or trained observer is called in question, and cannot be regarded as conclusive in itself. What is at issue is clearly something that cannot be determined by bare observation; it is a question of categories, or of the standpoint of interpretation, and this can be settled only by a comprehensive view of the nature of experience as a whole.

It is, however, maintained by some that the *logical* interests of science require that the purposive life shall be broken up into a series of internal objects and described from the existential point of view.

No one has put more convincingly the appreciative and evaluative character of concrete mental life than Professor Muensterberg. Yet he maintains that the psychologist is required by a *logical necessity* to transform the world of values and meanings into a series of inner individual objects that can be described and determined from the existential point of view. Now a few years ago I was inclined to accept this doctrine of Professor Muensterberg, both because it seemed satisfactory in itself, and also because, as it appeared to me, it afforded a practical distinction and *modus vivendi* for philosophy and psychology. At present however, I feel inclined to question—not dogmatically, but inquiringly—both the necessity and the value of this particular mode of transforming the concrete experience. I was long ago convinced that there is no path from the purely existential standpoint to that of values, from psychical states to logical or ethical appreciations; and I therefore have never been able to regard the natural science account of mind as an actual description of the concrete experience of individual life. It is, however, possible and often necessary to pass from the concrete to the abstract, *i. e.* to adopt abstract analysis as a *means* to further concrete intelligibility; but, it is necessary to repeat, the transformation into abstract terms can never be an end in itself: it is justifiable only when the process of abstraction serves to promote understanding and to facilitate control. No one can doubt that analysis of some sort is indispensable to scientific understanding of the mental life; but is it necessary to adopt the existential form of analysis? Why assume that understanding demands everywhere the same unvarying form of result? Moreover, when one has once recognized that the concrete character of mind manifests itself in terms of value, how is it possible to break this life up into terms so radically different in nature? For the transition from the one mode of reality to the other cannot be accomplished by any ordinary process of abstraction. The passage is not effected by simply selecting and omitting certain elements; but it is, as Professor Muensterberg names it, a 'transformation,' a passage into another genus.

I find further grounds for doubting whether the transformation

of the mental life into terms of existence is really indispensable in the fact that Professor Muensterberg does not bestow upon the constructed series of inner objects the full rank and efficiency of an existential order. That is, he demonstrates, very convincingly, I think, that the scientific conception of causality can have no application to this order of psychical objects. Causal explanation must be found outside of the psychological objects in the corresponding brain events. It seems pertinent to ask; Why, then, construct this order of psychological objects? It would seem that we are compelled in the last resort to go to brain events, to brain physiology, for the final statement of the laws of a psychology that has been assimilated to the methods of the physical sciences. What advantage is there, then, in interpolating psychical states or existences between the physiological processes and actual experience?[1] I cannot at present see why one may not look to the cerebral physiology of the future for an account of the general existential conditions of mentality in non-individualized form. It is in terms of brain physiology, I am inclined to believe, rather than in terms of states of consciousness, that the natural science of the mental life is to be written. It is undoubtedly true that such a science of brain physiology cannot be constructed without observation of the concomitant changes and modifications of consciousness. It might therefore properly enough be named physiological psychology, or psychological physiology. Whatever name is applied to this mode of inquiry, it is of fundamental importance to distinguish its method and purpose from what I have called concrete psychology. The one mode of inquiry is directed toward the discovery of the universal in its abstract generality, expressible in quantitative terms; this is the method of knowing

[1] In the Discussion of which this paper was a part, Professor Muensterberg stated, if I understood him correctly, that he no longer holds that this procedure yields the only necessary form of psychology. He maintains, however, that a science of psychology of this type is demanded by practical rather than by purely logical reasons,—*i. e.* because it is necessary to apply it in such fields as education and medicine, etc. This point is one that requires further discussion; but Professor Muensterberg's statement renders some of the criticisms in the text inapplicable to his present view. I have let these criticisms stand, however, as applying to the general theory.

things from the outside, as phenomena, or modes of existence. The other type of investigation, working, as it were from within, seeks to comprehend its subject matter in terms of a different kind of universal, a concrete individualized universal that expresses itself in the form of purposes and ideals.

In discussing this subject, it should not be forgotten that a psychology of the latter type is something more than an unrealized proposal. The great historical systems of psychology have in the main been written from this standpoint, and many of the most fruitful psychological investigations of our own time have been obtained by the employment of these internal categories. The whole series of works that have appeared on social psychology, and on the psychology of language, myth, and religion are concerned with individualized forms of experience.

Moreover, even in so far as this type of psychology remains an unrealized program, it yet is seen to represent a genuine need of concrete knowledge. For the demand for psychological insight is just a demand to understand the values and purposes of ourselves and others, and the functions through which these are realized. Reference has been made frequently to the service that psychology is able to render to medicine, and especially to nervous pathology, and it has been claimed, I think, that it has been able to render this service because it has adopted the form of a natural science. Even if this claim is quite justified, however, the fact should not be overlooked that in so far as psychology has limited itself to the abstract point of view its results have declined in significance, not only for philosophy, but for history and the whole group of humanistic sciences. It should not be forgotten that the standpoint determines the nature of the results: if one sows abstractions, one must reap abstractions. Psychology has had to pay a heavy price for its independence of philosophy in the decline of genuine human interest in the character of the results which it has attained. Nevertheless, I believe that since our discussion at Cambridge, eight years ago, psychologists have become increasingly aware of the relation of their science to humanistic fields of inquiry, and of the responsibilities that such a relation entails.

And, as a consequence of this new emphasis and interest, psychologists are likely in the future to rank themselves with the humanists rather than with the representatives of the natural sciences. Even at the present time we have a considerable number of psychological treatises whose affiliations, both as regards subject matter and method of analysis, are with philosophy and the historical sciences.

There are two difficulties which are often urged against the possibility of a personal or individualized type of psychology. On the one hand, doubts have been expressed regarding the attainibility of scientific analysis from this point of view. And, secondly, it is asked how it is possible to delimit such a type of psychological inquiry, how it can be differentiated from the various philosophical disciplines like logic and ethics, or even from the social and historical sciences. I will refer only briefly to these questions.

That every science must employ analysis is undoubtedly true. But it is equally true that analysis is not an end in itself, that not every or any mode of analysis is a step toward intelligibility. Analysis, to be helpful, must be significant; and it is significant only when it is guided by a synthetic purpose or idea of the conditions of intelligibility in the specific field of inquiry. Now it is often said that the strength of the 'natural science' psychology lies in the definiteness of its analytic procedure. This alleged definiteness is, however, a result of the existential point of view that is adopted by this inquiry, and merely expresses the fact that the psychical elements and terms are pictured in a quasi-material form. The essential question is as to the mode of synthesis, the mode of intelligibility, to which this analysis leads up. We have already seen that the 'natural-science' synthesis expresses itself in terms of abstract general laws, and that psychology is compelled to recognize another task, that of rendering intelligible the inner appreciative life of the individualized form of experience. In fulfilling this task, then, psychological analysis must be set forth in terms of the activities and functions through which the individual expresses, maintains, and develops his life. Analysis, from this standpoint, distinguishes and

describes the system of means and instrumentalities which the self employs in solving its various practical and theoretical problems. The problems of mind at its primary level concern the maintenance of life and the control of bodily movements. Since the mind is continuous with the principle of life, the maintenance of life is, as it were, its primary end, and bodily movements and adjustments are its indispensable instruments. The living body, from this point of view, is not a complex of bodily existences, but a teleological instrument, an implicit individual, that is realized through the development of consciousness. It is because of the continuousness of life and mind, and because it is life that thus sets the first problems for mind, that the analysis of the biological functions affords the essential clue to the analysis of mentality at this stage. If the interest in psychology were limited to these more elementary functions, the psycho-physical organism might, rightly enough, be taken as the unity in the terms of which psychological analyses are to be expressed. But the development of mental life involves a transcendence of the ends set by the living body, and the creation of a scale of values that have no direct reference to the well-being of the bodily life. Moreover, the process of mental development leads to a point where the direction of bodily movements is not the sole, or even the most characteristic, function of mind. The main emphasis of the address that Professor Judd delivered as President of the Psychological Association a few years ago was directed to show that the development of mind reveals a continuous creation of ends and means, in which, and by means of which, its functions take on a new form and significance. The psycho-physical life is taken up and used as an instrument in so far as it is capable of rendering service; but life which has attained its individualized form in self consciousness has created language and is concerned primarily with problems that transcend the psycho-physical level.[1]

It does not seem to me that this fact has always been borne sufficiently in mind by those who have employed the psycho-physical method of analysis. In describing the functions of

[1] C. H. Judd, "Evolution and Consciousness," *Psych. Rev.*, Vol. XVII, pp. 77 ff.

mind that belong to its more highly developed stage by means of terms and analogies drawn from the earlier level, there is, I think, a certain advantage. In this way the continuity of life and mind are rightly emphasized. But the disadvantages arising from a failure to recognize differences as they appear are equally obvious. The employment of the same terms carries with it the tendency to overlook the fact that, in the process of development itself, a new type of problem has been evolved, and that one is therefore not confronted with an unchanging type of situation. For example, there is something analogous to biological habit in the higher mental life, but this is also different in important respects from biological habit; or again, it must not be forgotten that terms like 'adjustment' or 'activity,' if employed to describe phases in the solution of an intellectual problem, are not to be allowed to commit us in advance to pragmatism by the importation of their more usual connotation. By interpreting functions exclusively at the level of bodily movements and adjustments, fundamental differences and distinctions are obscured.

On the main issue, then, I agree with the position taken by Miss Calkins, that psychological analysis is most concrete and adequate when it is expressed in terms of a self. Such a conception may well include, as she suggests, all that is valid in psycho-physical functionalism, while at the same time avoiding the tendency to interpret what is specifically characteristic of mind by means of biological categories. It appears to me, however, that Miss Calkins, as she proceeds, tries to combine two incompatible standpoints. Having reached in her argument the functional point of view of a self, she turns her back upon the categories and form of analysis which this view involves, and insists that the account of mind must still be written, at least in part, in terms of existential elements. The main purpose of the self-psychology thus seems to consist in introducing new elements, which are indeed more pervasive and ubiquitous than those commonly recognized by psychologists, but which are still, like the latter, existential structural units. It is new elements, not a new point of view, that one finds at the end of her series of articles in the *Journal of Philosophy*. Or at least there is a

failure to realize how completely the concept of the self transforms the natural science standpoint. This appears clearly, I think, from the statement in the concluding article of the series. "This proposed description of consciousness, in terms of the characters of the conscious self," Miss Calkins writes, "cannot take the place of the so-called structural analysis of consciousness into elements. On the contrary, the structural analysis, *which is common to all forms of psychology*, must supplement the description peculiar to self-psychology. From the structural standpoint, consciousness, though conceived as self, is regarded (spite of its inherent relatedness and persistence) as if in artificial isolation from surrounding phenomena, and as if momentary. The results of the analysis of consciousness, thus conceived, are the so-called elements of consciousness."[1] Another passage in the same article states that "the analysis into elements is an analysis of the self's consciousness when the self is conceived without reference to other selves or to its own past or future."[2] But what meaning can be given to a self that is thus reduced to a mere *punctum stans*, a bare existence? What is the necessity, one is bound to ask, of making such an abstraction, and how in detail does the abstract form of analysis subserve intelligibility in this case? I am not maintaining that what Miss Calkins calls structural analysis is never necessary or useful; but I do hold that from the point of view of a self-psychology it is not to be regarded as an end in itself, *coordinate* with the other form of analysis. It has a meaning and justification only as an instrument, a temporary abstraction that is demanded by the interests of the concrete analysis, and the results of which must be translated into the terms of the main inquiry. Thus, for example, if one were to undertake to analyze the character of any form of thinking, it would doubtless be necessary to introduce as a subordinate part of the main procedure what might be called a structural examination of the mental imagery involved. But this examination would not constitute an independent inquiry: it would be significant only when, by annulling the temporary abstrac-

[1] *Journal of Philos.*, Vol. V, p. 113. Italics added.
[2] *Ibid.*, p. 120.

tion, it were again included as a subordinate, though integral part of the main body of results.

The self, if it is to furnish a fruitful concept for psychology, must be regarded as something more than a point of reference. Miss Calkins's main difficulty seems to arise from the fact that, in her view, the self remains on the sensational, existential plane. It cannot, therefore, attain to genuine universality. As an appreciative self, indeed, it is not thus isolated and particularized, but looks before and after, and stands concretely united to a real world of persons and things. But it would seem as if Miss Calkins believes that the self, in order to validate its claim to reality, must be capable of being found by the type of introspection that seeks and finds only *modes of existences*. The whole question as to what introspection actually yields is, of course, involved in the present discussion. Miss Calkins has insisted that introspection affords us knowledge of various kinds of relations, and reality feelings, thus extending the possibilities usually assigned to it; but she fails, I think, to look at the universal and objective aspects of mental life, evidently assuming that whatever is real must be embodied in some particularized existential form, and that it is this that gives us assurance that it is no mere creation of the fancy. This, however, is to subordinate the appreciative standpoint to the existential, which is, I think, quite opposed to the real spirit of her contention.

There is another point of great importance in connection with the question of the analysis of experience which I can the more readily pass over with a mere mention, because it is likely to receive attention from other speakers who are to follow and who are more competent to discuss it. That is the question of the value and character of the psychological analysis effected by comparative and historical studies of the objective manifestations and products of mind. It would appear that the tremendously important results that are obtainable from these sources are contributions to the psychology of the appreciative individualized form of mind, rather than to an analysis in terms of structure. If this be true, the resources of analysis that the former has

at its command are almost infinite, and may well compensate for the greater diffculty of applying experiment from this point of view. As is well known, however, experimentation has already been successfully employed as an instrument for effecting this type of analysis in certain fields, so the dividing line is not that between an experimental and a non-experimental psychology.

There remains the objection that such a type of psychology as I have been discussing would have no definite limits or boundaries, that it would lose itself in philosophy, or in history. Perhaps no better protocol for the discussion of this question can be found than Bacon's reminder that the distinctions of the sciences must not be conceived as absolute gulfs and divisions, but only as veins and markings in one continuous body. Division of labor and distinction of categories are, of course, essential to progress in scientific work; but at the present time it is perhaps even more important to seek for some principles of integration and unity. I believe that not only psychology, but all the sciences, require to be humanized and rendered concrete, as Bacon and Comte pointed out, by being brought into relation to the life of humanity. When dissociated from philosophy and history they are no better than dead branches severed from the parent trunk. It is inadvisable, then, to fix absolute divisions or to attempt to determine the limitations of the different sciences on purely formal grounds. If the conception of unity and supplementation is preserved as the guiding idea, this will itself operate as a principle of division of labor. A formal or *a priori* delimitation of the different sciences is lacking in the flexibility and capacity for adjustment that is demanded by the changing conditions and relationships of a growing body of truth. In particular, it is essential that the connection between philosophy and psychology that has in recent years been somewhat weakened should be restored and strengthened.[1] A close intimacy and

[1] It is interesting to refer in this connection to Wundt's references to Hegel at the end of his essay in the Kuno Fischer Festschrift (*Die Philosophie im XX Jahrhundert*, 1907) as setting the ideal of a concrete knowledge of mind towards which the psychology of the future must advance. In his recent brochure entitled *Die Psychologie im Kampf ums Dasein* Wundt also emphasizes the necessity of a close relation between philosophy and psychology.

a constant give-and-take association is essential to the fruitful development of both these subjects. This is not the place to attempt any account of the division of labor that seems to be called for at the present time.[1] The lines of division will, as I have said, grow out of and be determined by the demands of this close association, probably taking new directions from time to time as the inquiry advances.

J. E. CREIGHTON.

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[1] This subject has been treated ably by J. R. Angell in his paper entitled "The Relation of Structural and Functional Psychology to Philosophy" (*Chicago Decennial Publications*), and also more or less explicitly by Dewey in several writings.

PROCEEDINGS OF THE AMERICAN PHILOSOPHICAL ASSOCIATION; THE THIRTEENTH ANNUAL MEETING, YALE UNIVERSITY, NEW HAVEN, CONN., DECEMBER 29–31, 1913.

Report of the Secretary.

THE thirteenth annual meeting of the American Philosophical Association was held at Yale University, New Haven, on December 29, 30, and 31, 1913. The Treasurer's Report for the year ending December 31, 1913, was read and accepted after being audited by Professors Marvin and Coe.

Edward G. Spaulding, Secretary and Treasurer, in account with the American Philosophical Association.

Debit.

Time account	$354.75
Interest to January 1, 1913	9.81
" " " 1, 1914	11.01
Check account, January 1, 1913	87.24
Dues received	156.00
	$618.81

Credit.

Expenses:—	
Columbia Meeting	$ 33.55
Clerical Services	37.69
Stamps and stamped envelops	26.94
Stationery	4.60
Telegrams and miscellaneous	6.08
Printing	42.36
	$151.22
Total time account, January 1, 1914	375.57
Check account, Cash on hand	92.02
	$618.81
Total Cash on hand, January 1, 1914	$467.59

Audited and approved.

Walter T. Marvin,
George A. Coe.

The following officers were elected for the ensuing year: *President*, Professor J. H. Tufts, of the University of Chicago; *Vice-President*, Professor W. H. Sheldon, of Dartmouth College; *Secretary-Treasurer*, Professor E. G. Spaulding, of Princeton University; *Members of the Executive Committee*, to serve two years, Professors C. M. Bakewell, of

Yale University, and W. T. Bush, of Columbia University; to serve one year, Professor I. W. Riley, of Vassar College.

Upon recommendation of the Executive Committee the following new members were elected: Professor Edward S. Ames, of the University of Chicago; Professor Albert Balz, of the University of Virginia; Dr. Albert R. Chandler, of Harvard University; Professor George Cross, of the Rochester Theological Seminary; Professor J. F. Dashiell, of Waynesburg College; Mr. Henry L. Eno, of Princeton, N. J.; Dr. Edward F. Guthrie, of the University of Pennsylvania; Professor E. C. Moore, of Harvard University; Professor William L. Raub, of Knox College; Professor E. C. Wilm, of Wells College; Professor James H. Woods, of Harvard University; Dr. William K. Wright, of Cornell University. Associate members: Mr. William R. Warren, of Harvard University, and Mr. Douglas C. McMurtrie, of New York City.

The Executive Committee reported that no invitations had been received for the next meeting. Professor Lovejoy announced that the Political Science Association, which meets at Chicago in December, 1914, was desirous of meeting with the Philosophical Association in order to confer on the philosophical aspects of law. On motion of Professor Lovejoy the Association referred this matter to the Executive Committee with power, yet with instructions to arrange such a meeting, if possible and advisable.

On motion of Professor Pitkin it was RESOLVED,

I. That the Executive Committee be authorized to organize at its discretion, branches of the American Philosophical Association upon application for such action by members of the Association resident in or near the place of organization.

II. No branch society thus organized shall be allowed to elect members to the Association nor to itself.

III. No branch society shall be allowed to hold a meeting within two weeks of the date on which the current annual meeting of the Association shall be held.

On recommendation of the Executive Committee it was voted that, beginning with this year's meeting, the Secretary's travelling and living expenses incurred by attending the meeting be defrayed by the Association.

Professor R. F. Alfred Hoernlé, of Armstrong College, New Castle-on-Tyne, and special lecturer at Harvard, addressed the Association with reference to the International Philosophical Congress to be held at London in the summer of 1915. Members of the Association are

urged to attend this Congress and to send titles of papers to the Secretary, Dr. H. Wildon Carr, More's Garden, Chelsea, London, S. W.

Professor Gardiner, of the Committee on Early American Philosophers, reported progress and the committee was continued.

The appreciation and thanks of the Association were expressed to Yale University, and especially to Professors Bakewell and Hocking, for their generous hospitality at this meeting.

Respectfully submitted,
EDWARD G. SPAULDING,
Secretary.

SECRETARY'S REPORT OF THE JOINT MEETING OF THE AMERICAN PHILOSOPHICAL ASSOCIATION AND THE AMERICAN PSYCHOLOGICAL ASSOCIATION, HELD AT NEW HAVEN, DECEMBER 31, 1913.

The meeting of the two societies was called to hear the report of the committee appointed to ascertain the facts regarding the resignation of Professor Mecklin from the faculty of Lafayette College. Professor H. C. Warren presided. Professor W. V. Bingham was appointed secretary. The report of the committee was presented by its chairman, Professor A. O. Lovejoy.

On motion of Professor Spaulding it was voted that the report be accepted and printed at the expense of the two societies and that copies be sent to all members of these associations, to the editors of scientific journals who may care to publish the report, and to such other persons as the executive committees of the associations in conjunction with the members of the committee may designate.

On motion of Professor Overstreet the associations adopted a cordial vote of thanks to the committee for the completion of a piece of work which stands so finely for the honor and dignity of the teaching profession.

W. V. BINGHAM,
Secretary.

The following are abstracts of the papers read at the meeting:—

Existence, 'Value,' Reality. W. M. URBAN.

Distinguishing between a 'narrower' and a 'broader' use of the term value, the first making value dependent upon existence, the second seeking to reduce existence and truth to forms of value, the writer takes them up in turn and reaches a negative conclusion with regard to both. As to the first, value can certainly be legiti-

mately predicated of subsistents as well as existents, and in all probability of some objects that are neither. There seem to be objects whose 'mere determination as objects' (such as the 'perpetuum mobile,' 'unmixed happiness,' 'perfect being') are sufficient to insure interest and value. With regard to the second, it is held (criticism of Pragmatism and Imperativism) that existence and truth can be shown to be independent of all values, *except* the value of truth. But unless we can show that value is presupposed *in some other sense than that already implied in the concepts of existence and truth*, we are ultimately landed in tautology. In general the concept of logical values, of existence and truth *as* values, and not merely *having* value, tends to be an argument in a circle.

In view of these negative conclusions, and also of the contradictions that arise when value is spoken of itself as either existing or subsisting, the claim is made that value (its objectivity in some sense being for the moment taken for granted) is a *third kind* of objectivity, like existence, but in certain important respects distinguishable from both existence and subsistence, and reducible to neither. It is not a 'what,' but a 'that,' not a quality but an 'objective.'

Arguments for this position are: (1) that, if value may be predicated not only of objects that are existent or subsistent but also of such as are outside both these classes, then it follows that *value 'is'* (whatever that means) when the *objects 'are not'* in either of the two above senses of the word. (2) More important is the argument that value is not a quality, not a 'what,' but a 'that.' According to a very common view, such qualities as the good, the beautiful, the pleasant, etc., are identified with value, and likened to secondary qualities. But these are no more the value than the sense-data are the existence. *Through* them we apprehend the value, that the object 'ought so to be,' or 'is worthy to be so felt.' Because a thing is called valuable, it has no new *quality;* it is precisely because of its qualities that it is valued. Its 'what' is raised into the sphere of value, just as by the existential judgment it is raised into the sphere of existence. The fallacies that result from the concept of plurality of values (value, like existence is one) are due to this error.

The problem is then to distinguish value from existence and truth. On examination of certain non-psychological and ontological definitions of value, such as value is 'that which is worthy to be,' or 'ought to be on its own account,' the conclusion is reached that they all disclose an imperfect 'potentialization' of the emotional subject. When we say, for instance, that 'the gold of California had value for the

inhabitants at a time when it was still undiscovered,' or that justice would have value for men, even if there came a time when no one appreciated that fact, we are confusing 'value itself with a truth proposition about the relation of value to a subject.' The latter is timeless, like any other truth proposition, but the value itself '*was not*,' and 'would not be,' whatever this use of the verb to be may be later found to mean. It lies, then, in a nature of value as such to imply valuation. Its objectivity does not lie in complete independence of an emotional subject. But an examination of value does disclose an a priori element that determines its objectivity and marks it off from existence and truth. It lies in the nature of value as such that it demands of all objects whatsoever that they shall lie somewhere in a scale of values. Just as to every 'object' in the widest sense of the word existence or non-existence must be predicated, so for us also, must every object find its place in a scale of plus or minus values. The relation of higher and lower is, moreover, the *essence* of value. Given any three values of whatever sort, one of them must be in the middle. The fact of our inability to determine the values, does not affect the principle. Though empirically incommensurable, values cannot be so, ultimately, without destroying the very essence of value. This, it is held, lies in the very nature of value as such, is a priori and self-evident. When it is contended (Russell, Liebmann) that in such propositions as 'happiness is better than misery,' 'life is better than death,' etc., part at least is a priori, they are right, but it is only the element here described. All else is empirical.—Value, then, though a form of objectivity, is unlike existence and truth in that it is inseparable from an emotional subject (valuation) and admits of no such thing as an isolated value (as there may be isolated existents and truths.) It is however fallacious to speak, as some have done, of this objectivity of value as 'imperative existence' or 'being for will.' This means always pseudo-existence or subsistence. The only way is to recognize a third form of objectivity. In this connection a doctrine of 'value judgment' is developed, which aims to meet recent attacks, especially that of Croce.

What finally can be said of the relation of value and existence? First of all, existence should not be identified with reality. Value *does not* presuppose *existence*, but it *does* imply *reality*. Recognizing the great world of objects that do not exist, and yet have interest, it has a meaning to speak of 'a prejudice in favor of existence;' but a prejudice in favor of reality is a contradiction in terms, interest implies reality in some sense. The writer argues for the inseparability of this

value connotation from the concept of reality, upholds the doctrine of degrees of reality, maintaining that it follows from this inseparability. *Existence*, however, as such, as merely apprehended, is valueless, just as value is non-existent. Existence *becomes* a value, however, when, as distinguished from non-existence, it becomes a criterion of reality. There are many objects (their nature and extent being of course a matter of empirical determination) in the case of which existence is better than non-existence, and sometimes non-existence better than existence. In such cases existence becomes a value (as also may truth) in that it is the necessary presupposition of value. The point of importance is that in the last analysis value is its own guarantee. That in certain cases it is related to existents is an empirical fact requiring investigation like any other empirical relations.

It may be said, then, by implication, that a theory of existence could be developed independently of a theory of value, though not a theory of reality, for the latter is inseparable from value. Moreover, if this be true, since there is no such thing as an isolated value, since the relations of values are 'internal,' a theory of reality also implies an 'internal' theory of relation.

The Empirical Determination of a Value Scale. E. N. HENDERSON.

The purpose of this study is to try to find out by actually questioning many persons how much agreement there is among them as to the relative importance of certain values and also, if such agreement be found, what the order of their importance may be. To that end I have used a list of six values, which may, perhaps, be regarded as inclusive of the principal good things of life. They are health, property, sociability, intelligence, taste and morality. The persons who helped in the study were asked to comply with the following request:

"Arrange the following list of misfortunes in the order in which you would be least willing to incur them:"— (1) To be chronically ill so as to be confined to the bed room; (2) To be dependent upon others for support; (3) To have no friendly relations with nor personal interest in others; (4) To be a person of defective mental power; (5) To lose all interest in the beautiful; (6) To lose conscience so that habitual thievery would cause no remorse.

It will be noted that personal qualities rather than the good things that can be gained and enjoyed through them have been selected, and that in each case the basis of comparison is what might be called the minimal standard amount of each value, or that the possession

of which is expected of every normal individual. These conditions, I think, favor simplicity in the study.

The replies of 183 persons may be represented as follows:

Rating.	I	II	III	IV	V	VI	Average Rating.	Average Deviation.
Morality	84	42	37	14	4	2	2.	.92
Intelligence	56	73	30	15	8	1	2.17	.88
Sociability	27	25	50	48	26	7	3.23	1.12
Property	4	18	25	34	77	25	4.3	1.67
Health	11	11	21	33	25	82	4.61	1.34
Taste	1	14	20	39	42	67	4.68	1.11

Miss Catharine N. Platts, a student in the Summer Session at Columbia, obtained for me 120 responses. Her questions were similar to mine, except that the one regarding property was put in such a form that the idea of dependence on charity was not implied. Her question put the alternative as such poverty as to involve actual want. The result was that property dropped to the lowest place in the scale of values. The summary of her replies as is follows:

Rating.	I	II	III	IV	V	VI	Average Rating.	Average Deviation.
Morality	53	30	27	7	3	0	1.9	.87
Intelligence	30	42	23	20	3	2	2.4	.99
Sociability	18	15	33	34	15	5	3.2	1.10
Health	19	21	18	16	29	17	3.5	1.51
Taste	0	9	9	31	25	46	4.9	1.23
Property	0	3	10	12	45	50	5.	.75

Summarizing the results of both tables, we have:

Rating.	I	II	III	IV	V	VI	Average Rating.	Average Deviation.
Morality	137	72	64	21	7	2	1.99	.89
Intelligence	86	115	53	35	11	3	2.27	.92
Sociability	45	40	83	82	41	12	3.21	1.11
Health	30	32	39	49	54	99	4.19	1.6
Property	4	21	35	46	122	75	4.6	1.01
Taste	1	23	29	70	67	113	4.7	1.09

I conclude that there is considerable agreement in regard to these minimal standard values. Morality and intelligence are clearly at the top with a slight advantage in favor of the former. Sociability is quite as definitely in the third place. Health, property and taste are grouped closely together, with little advantage in favor of any one. If lack of property means dependence on charity, this value seems to come up to fourth place. Otherwise it drops back toward the bottom. Taste is at or near the bottom in any event. Health, as is shown by

the average deviation, is placed most variously, yet it is clearly a low value.

The results are in one sense partial, inasmuch as 283 of the 303 answers came from women. However, the summary of the 20 replies from the men gives exactly the same arrangement of the values as is found in the summary of replies collected by me.

It, of course, remains to be discovered whether the same arrangement will prevail for values above the minimal standard but at about the same relative level.

History vs. Value. M. R. COHEN.

In opposition to the rationalism which is supposed to be typical of the eighteenth century, the nineteenth century developed a mode of thought generally called historicism. The essence of this mode is the assumption that the only and complete explanation of things is to be found when they are seen as the last terms of temporal series. The radical adherents of the historical method in the social sciences frequently claim that it transcends and renders unnecessary the standpoint of valuation, and thus deny any truth to the assertion that the value of a thing is independent of its history.

Though historicism professes to be empirical and realistic in temper, all its arguments are a priori, presupposing the perhaps incompatible propositions (1) that the nature of everything is manifested only in temporal series, and (2) that the past completely determines the present. A close examination, however, of the actual attempts made in economics, jurisprudence, ethics, politics, religion, and philosophy to substitute history for the old deductive methods of valuation shows that in no case have such attempts succeeded. No one, of course, can deny that history is a genuine mode of extending our experience; but the historical knowledge of situations is, as a matter of fact, frequently irrelevant to their practical evaluation.

The 'lessons' which people have drawn from history have all been derived by assuming the very values which are supposed to be proved by history. The assumption that the good or valuable always triumphs in the end is simply the old dogma 'that this is the best of all possible worlds' translated into a temporal form.

Value and Existence in Art and in Religion. H. M. KALLEN.

Analysis shows that value consists in a relation between the mind and any object of awareness—a relation such that the mind, the object and it constitute an interest. Value is the distinctive content

of interest. Its existence turns primarily on the existence of mind which is the referent, rather than object, which is the relation in this triad of terms and relation. So far therefore as mind exists value exists; value, indeed, is an existent among other existents, just as red is an existent among other existents, and things may gain or lose value just as they may become or cease to be red. Now mind is a complex of reflexes, instincts, impulsions and feelings all of which cannot be realized at once: in terms of the 'value-relation,' not every referent in the complex called mind can lend its appropriate relation. If it could, or if the referent could be destroyed, there would be no problem of values. The referent is not however destroyed. Unsatisfied desires, impulsions and interests survive as repressions. Such repressions give rise to ideas in which they are expressed, partly and vicariously realized. These ideas are 'value-forms'—essentially wish-fulfilments, ideal reconstructions of the unsatisfactory and repressive environment into satisfactory forms. They appear first as dream, but objectively they become the imaginings which in history are art, religion and philosophy. Of these three philosophy is the purest and freest, inasmuch as it handles no material of experience, but rather restates experience in purely human or ideal terms. Philosophy is almost identical with value, being most intrinsic and abstract. Throughout its history it posits five value-forms the existence of which it seeks to *prove*. These are the unity, spirituality and eternity of the world, and the immortality and freedom of the human spirit. They are non-existent, ideal compensations for the shortcomings of existence. Art and religion seek to make them existent. Art does so by reconstructing objects according to the standards they set: it compels value to become an existent, and in its objects, as they are encountered in the esthetic experience, it exhibits all these value-forms as existences. Religion simply defines value as existence, and makes the value-forms magically operative upon existence. Religion, hence, is essentially compensatory, and when it ceases to be compensatory, becomes art.

Social Factors in Value. J. H. TUFTS.

An analysis of the social factors in value may afford light upon two problems of present discussion: (1) the content of the value predicate; (2) the objective character of values.

1. While the content of such values as beauty, good, etc., is unique, and not definable in terms of anything else, it is none the less true that it arises in a definite situation. Assuming that the fundamental

aspect of the valuation process is a selective activity of the organism, we find that responses to stimuli tend to differentiate into two general sorts: toward the more stable, simple sort, reaction becomes habitual; toward the more variable, complex sort, greater attention with constant readjustment is necessary. Objects of the former sort become things. Objects of the second sort take their place in a bi-focal or social situation. Likewise in the case of certain of these objects, their stimuli find peculiar responses already prepared in the social instincts of the organism. When completely developed this situation results in consciousness of persons and of self. Economic values arise in connection with attitudes toward things; æsthetic, moral, and religious values, and values of personal affection arise in situations of the social sort. In the several kinds of these social situations peculiar enhancements, distinctive planes or levels of consciousness, are reached which are experienced severally as unique values.

2. These experiences give rise to judgments of value which may be stated in two forms. (*a*) I want (or men want, or there is a demand for) wheat; (*b*) wheat is worth $1 a bushel. (*a*) I admire the Parthenon; (*b*) the Parthenon is beautiful. (*a*) I approve justice; (*b*) justice is right or good. It is noteworthy that the economic value is in modern times recognized to depend upon the market, that is upon wants, whereas the æsthetic and ethical value is objectified. This seems to correlate with the fact that in a judgment upon things we do not embody value of the relation in the object, whereas in the quasi-personal or personal attitudes implied in æsthetic and ethical values we do so incorporate the value. The objective character of certain of the values is also correlated with the generality of the situation. In economic values no generalizing is implied except the numerical one of the market, the price 'bid and asked.' In personal affection values we may seek the reinforcement of a group consciousness of other friends but do not necessarily expect the same personal attitude of all spectators. In moral, æsthetic, and religious situations we generalize the attitude. It is something demanded of all. This goes along with incorporating the value in the object. Language, social art, group action and group judgments all prepare the way for this but it is in itself a unique attitude.

A Neo-Realistic Conception of Value. W. P. MONTAGUE.

Value is the status acquired by any object, existent or non-existent, in virtue of its capacity to satisfy an interest. An object that has the value-status may be called *a value*. All values are susceptible of

intensity or degree and of extensity or number. Values are divisible into secondary and primary. Secondary values such as economic or mathematical are objects which satisfy subsidiary interests or requirements such as those of the market or those of an algebraic equation. We shall not be further concerned with secondary values. Primary values such as ethical and æsthetic are objects which satisfy the fundamental interests of conscious life.

There are three types of interest possessed by conscious beings: (1) cognitive, (2) affective, (3) conative. Objects or values that satisfy these interests are respectively believed, enjoyed and desired. Each of these three types of value is further divisible into an empirical or subjective and a rational or objective phase which may be, but need not be, mutually exclusive. Thus: (1) Cognitive value is divisible into the apparent or sensible and the true or logical. (2) Affective value is divisible into the pleasant, or hedonic, and the beautiful or æsthetic. (3) Conative value is divisible into the desired, or impulsive, and the desirable or ethical. The satisfaction of each of these primary interests consists in a specific and not further definable equilibration or conformity of individual and environment.

The conformity of the beliefs of the individual to the environment gives cognitive satisfaction. The conformity of the environment to the desires of the individual gives conative satisfaction. The mutual and spontaneous conformity of the environment and the feelings of the individual gives affective satisfaction. Whether an object possesses any of these three types of value depends jointly upon the nature of the object and the nature of the individual. But the relative importance of the object and individual is different in the three cases. (Æsthetic values are not further considered.) Cognitive value, or truth, depends primarily on the nature of the existing environment, while conative value or goodness depends primarily on the nature of the conscious individual. *From which it follows that a theory of cognitive values depends upon a theory of existence, but not upon a theory of consciousness, while the theory of conative values depends upon a theory of the nature of the conscious individual, but not upon a theory of existence.* Whatever appears to sense is probably true or real except in so far as it conflicts with the totality of other appearances, but whether it does so conflict is determined by the nature of the environment and not by the nature of the conscious individual. Whatever is desired is as such desirable or good except in so far as it conflicts with the totality of other desires, but whether it does so conflict is determined by the nature of individuals and not by the nature of the

environment. Individuals are many but the environment is one. Therefore, ethical values are relative (what is good for one may be bad for another); but logical values are absolute (what is true for one may not be false for another). The relativity and plurality of ethical values is limited by the fact that it is absolutely desirable for each that the maximum of all desires should be satisfied. The absoluteness and monism of logical values is limited by the fact that there exist many relatively inconsistent appearances of the one self consistent reality.

Values and Experience. J. F. DASHIELL.

Changing from a view of the petrified achievements of man's intellectualistic life to the standpoint of naïve daily experience, we find ourselves in a world not so much of persistent and ponderable stuffs as of promising and threatening agents and forces. This dynamic changing is the inalienable character of the world we experience. It stands over against us in a positive way; and by virtue of the friendliness or unfriendliness of the different active agents toward our organic purposes and interests, they are the data out of which the world-perspective is really made—values. Experiencedness = meaningfulness, hence experienced content = values. It follows then that our objects or 'things' are certain constancies of import that have been seized and emphasized by the living mind. The dynamism so characteristic of all experience is referable partly to the environmental or extra-organic, partly to the subjective or organic factors (speaking relatively). This whole point of view now furnishes the basis for answering various questions raised during the past year.

Is the concept of value irreducible, ultimate? Since values are primary in every sense in human experience, the category is a primary one. The distinction between 'values' and 'things' in a given moment's content is after all only a relative distinction dependent upon the purpose in hand; and the conception of hard and fast things as set over against values betrays the ghostly influence of the concept of substance.—Is consciousness necessary to the presence of values? Since the limit between conscious and unconscious has not been definitely determined either in animal behavior or in human social life, the question is irrelevant or unimportant. But awareness in an acute degree does enter in moments of evaluation.—Does evaluation modify and create values? Education in all its branches gives an unhesitating affirmative; indeed, this efficiency of evaluation is at the very base of the development of all reflective or intellectual life of man.—The

distinction of subjective-objective is really traceable to the act of evaluation: if a simple experience of value be later analyzed into elements distinctly referable to the organic and to the extra-organic, we call them the subjective and objective elements respectively. But, strictly speaking, value, to be such, must be experienced in its uniqueness and immediacy.

An Empirical Definition of Value. W. H. Sheldon.

The present conflict of views makes it desirable to seek a definition. If this is not to be circular it must define value in terms of what is other than value, *i. e.*, actuality. It must be sought empirically, if it is to apply to the values we are conversant with. All cases of value belong to one or more of the following classes: Sensual (Urban's "condition worths"), economic, æsthetic, moral, religious, intellectual. In each of these we find by analysis of data that the value consists in the furthering or hindering of some given tendency. What does this is from the point of view of that tendency good or bad. Value is thus defined in terms of a factual category—viz., potentiality. Every value which is not merely imagined but felt as a working influence is such a potentiality, tending to realize itself. With any particular value, there is no necessity that it be anything more than a potentiality; with an all-inclusive value, potentiality would pass into actuality. This agrees roughly with the Ontological Proof, and explains why the propositions which ground all knowledge—the axioms—are objectively true and not mere postulates.

The Definition of Value. R. B. Perry.

The indefinability of value is argued on two grounds:

1. Value is adjectival rather than substantive, so that nothing is universally and exclusively valuable. But it does not follow that the value predicate is indefinable.

2. Value is simple and unanalyzable. But one finds no value-quale as a residuum in experience; and without a definition of value no light is thrown on its polarity, comparative magnitudes, etc.

Value is said to consist in the relation of harmony or fitness. But the value here does not lie in the relationship as such, but in its beneficence, or in the intellectual or æsthetic interest taken in it.

Value is defined as the typical or universal. But the typical has value only when it typifies value, as when there is an intellectual or æsthetic interest in the typical. Similarly degrees of universality coincide with degrees of value only when the universe is assumed to be

the value-maximum, or when there is a philosophical interest in universality.

Value may be defined as the pleasure-pain state. But this view has usually been defended on the ground that only pleasure is liked and only pain disliked, which is equivalent to the view that it is liking and disliking, rather than passive pleasure and pain, that are determinative of value. And it is now recognized that there are other things beside pleasure and pain that are liked and disliked.

Finally, value may be defined in terms of like or dislike, as the fulfilment of interest.

1. This may be regarded as a sufficient definition without further qualification. Various questions arise. (A). Which is fundamental, desire or feeling? There is no absolute difference, since I seek to prolong what I enjoy, and to have what I desire. (B). Must the object of interest exist in order to possess value? There must be an actual object of interest, but it may be belief, assumption or fancy merely. (C). Is interest the fact of value, or the cognition of value? It is evidently the former, though it may be attended by introspective consciousness, or cognition of it by the same subject.

2. Mr. Moore would reject outright the view that value consists in relation to a subject. (A). Goodness cannot signify the judgment of goodness, for then the judgment would have no object. (B). Goodness cannot signify merely the interest of the judge, for then there could be no discussion of goodness, no common meaning. (C). Goodness cannot be the same as relation to interest, because the predicate may be otherwise used. But verbal usage or conscious meaning are not decisive. We must look to their objects. (D). Goodness cannot consist in a relation at all, because if it did nothing could be intrinsically good. But that which *contains* the relation to interest may be intrinsically good. Relation may be predicated either externally or internally.

3. A considerable group of writers would define value in terms of 'higher' or duly qualified interest fulfilments. (A). First, there are those who would confine values to some specific complex type of interest, such as self-conscious interest, or 'self' interest, or the characteristic 'human' interest, or the collective social interest, or a consistent, co-operative interest, or the universal will. But to confine value to the fulfilment of any one of these interests would be arbitrary, if it were not for the fact that they are inclusive, conserving, facilitating or otherwise *quantitatively* superior to a momentary or individual inpulse. (B). Second, there is the view which would confine values to the fulfilment of interests having 'pre-

suppositions'—when these presuppostions are *true*. These presuppositions concern, (1) the state of the object or its relation to other objects, (2) the existence and purport of other interests. When such presuppositions are true the value which they condition is founded on truth, but this is different from its being truly a value. It is truly a value when the interest fulfilment exists. When it is founded on truth it is a greater value in that it is more durable, or more completely satisfying. Thus we appeal again to a quantitative standard.

Discussion: The Standpoint and Method of Psychology:—

J. E. CREIGHTON.

The main contention of this paper is that the type of psychology which is based upon the categories of physical science does not satisfy all the demands that may legitimately be made for an understanding of the mental life. It may even be questioned whether the general or abstract laws of mentality are not physiological, rather than psychological in character. Even if we grant that for certain purposes a physiological psychology or a psychological physiology is necessary, it must be maintained that the mental life has also to be made comprehensible as an individualized form of experience. This type of psychology has a different ideal of intelligibility from that of the 'natural science' conception of uniformity. It seeks to discover the concrete 'idea' of mind by analyzing its activities and comprehending its purposes and systems of value. Analysis, from this point of view, does not seek for existential elements, but traces the development of the function of the self, in its concrete relations to the world and to society. It makes use of introspection and of experiment; but its important instrument of analysis is history. This conception of psychology is not merely an unrealized ideal, but has been present, more or less consciously, in many of the great systems, and is yielding important results at the present time in the numerous studies that are appearing on social psychology, the psychology of religion, myth, custom, and language, etc.

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F. M. URBAN.

The realm of philosophy is the entire field of experience. Psychology, which cultivates part of this field, is just as much in need of the support of philosophy as any other science. Some of its notions and methods are in particular need of epistemological analysis, because they show problems, which arise in other sciences also, under an

unfamiliar aspect. The notions of introspection, probability, and of the psychometric functions may serve as examples. In trying to correlate mental states with definite objective conditions one encounters the difficulty that there exists no such groups of conditions which always produces the same mental content. If you let your subject compare two stimuli, his judgment will vary in successive experiments in such a way that you can not foresee which judgment will be given in a particular experiment. Judgments of this kind, as a matter of fact, have all the formal and material features of random events and comply with the requirements of the calculus of probabilities. Does it follow from this that the mental contents expressed in these judgments do not depend necessarily on their conditions? Since there are many events about the causal connection of which there is not the slightest doubt and which, nevertheless, may be successfully made the object of treatment by the rules of the calculus of probabilities, we are not forced to deny causal connections between mental states and their conditions. A problem of similar great generality is found in the notion of the psychometric functions, which give the probabilities of the different judgments in terms of the comparison stimulus. The fundamental problem consists in determining the course of an unknown function, several values of which are given from observation. In actual practice one does not use the most general type of function but a very special class, called analytic functions. These functions are valuable on account of the following two properties: (1) They can be determined on the basis of a finite number of observations, and (2) once determined, their course may be followed up as far back or ahead as one pleases. What are the reasons for restricting the scope of the investigation in this way? The same problem is found in every case where one tries to apply mathematical reasoning to the study of the phenomena of nature, and it seems that the so-called principle of causality is identical with the assumption that there are no other but analytic functions in nature. The way to advance this problem consists in dropping this assumption as a whole or in part, and observe the consequences.

JOHN DEWEY. (No summary furnished.)

HUGO MÜNSTERBERG.

Professor Münsterberg started with an account of the recent, much discussed declaration of protest of one hundred and six philosophers in Germany. They demanded that the faculties and governments create special professorships for experimental psychology, instead of

filling the chairs for philosophy with psychologists. They insisted that psychology is a special science which is nowadays detached from philosophy. The pamphlets of Wundt, Marbe, Hillebrand, take the opposite stand. Psychology and philosophy belong together, or, in more extreme form, philosophy is to be made dependent upon psychology. We have here in America the same contrasting views. The fundamental condition for bringing order into this chaos is the recognition that there exists not one psychological standpoint, but two, and that the two kinds of resulting psychology stand in very different relation to philosophy. The causal psychology must remain the psychology of our laboratories, but no causal psychology of logical or ethical processes can be a substitute for philosophy. Moreover, no psychophysical research can contribute to the solution of the fundamental problems like the right or wrong of introspection, of psychical causality, of parallelism, of the subconscious. Every special fact of observation can be interpreted in either of the opposing theories. They must be settled beforehand by epistemology. The other standpoint of the psychologist is that from which mental life appears as the expression of a meaning. The resulting psychology is purposive. While the background of the causal psychology is a naïve dualism, the background of the purposive psychology must be a naïve realism. Every element of human experience can be treated from both standpoints. The biological behaviorism also allows both forms. The bodily action may be looked on as the substratum of the causal mental process or as the bodily expression of a purposive self. Only the purposive psychology speaks of that mental life of the individuals for which norms exist. It is therefore the only psychology which is directly related to philosophy. Yet the standpoint of the philosopher cannot be identified with that of the purposive psychologist either. He ought not to be interested in those mental acts by which the individual submits to the norms, and that is to the values, as this submission involves the acknowledgement of a realm of absolute values, the subjects of which are not individuals but an over-individual will. While causal psychology leads to no philosophy, teleological psychology leads to relativistic philosophy only. The analysis of the idealistic philosopher, who deduces the validity of the absolute values from the postulate of reality, precedes both and guarantees their definite rights in the system of our over-individual tasks.

Bergson, Berkeley, and Philosophical Intuition. A. C. ARMSTRONG.

In Bergson's philosophy the doctrine of intuition is central, but difficult. Therefore he illustrates it by examples: the writer and his

plot, the artist and his picture. Philosophical intuition, again, may be shown actually at work by means of examples historically attested.

This opportunity has been taken by Bergson in his paper before the Fourth International Congress of Philosophy, printed in the *Revue de Métaphysique et de Morale* (1911, pp. 809–827). No philosophy, it is there argued, has ever said more than one thing. And this intuition is independent of time and circumstance, of earlier systems and contemporary ideas. So Berkeley defended idealism, nominalism, the reality of spirit volitionally conceived, and theism. But these fundamental theses form only the 'body' for his central thought. This can be approached only through mediating images—matter visually imaged as a film intervening between God and man, or, by audition, as a divine language, intelligible unless, with the metaphysicians, we hypostatize the sounds themselves.

Bergson's historical interpretation is attractive and illuminating. It leads to the heart of Berkeleyanism, which so many miss. But does it stand the test of comparison with the historical data, from the *Commonplace Book* to *Siris*? So compared, Bergson's conclusions seem of a hazardous sort.

For example, Berkeley did say one thing—supremely. Theistic immaterialism formed his objective throughout his life. But was this the sole aim of his thinking? The *Commonplace Book*, on the contrary, shows him from the start minded to reform the sciences as well as to defend faith. Mathematics and natural philosophy, like metaphysics, must be freed from the abstractions of the schools. His nominalism, therefore, is not a mere vehicle for his idealism. His view is possible, and technically defensible, but it is the reverse of historically probable. And so with the other fundamental theses. There is indeed a movement, a direction, an 'intuition' informing Berkeley's system—but this is not a transcendent, detachable principle, independent, in the absolute sense, of contemporary conditions and using contemporary ideas merely as media of expression.

Similar conclusions hold of Bergson's discussion of philosophy and the sciences. A philosopher re-fashions and transforms the ideas of his time, philosophy re-thinks scientific results in the light of its own concepts. The work in either case is more than mere combination—but it is also other than the simple manifestation of self-subsistent philosophemes.

Some Aspects of the New Realism. I. W. RILEY.

Negatively, the new-realism is a reaction against the old idealisms with their emphasis on the abstract, the a priori. Its first task

(Marvin) is to get rid of the everlasting epistemology from Kant to Royce. Positively, the new-realism is a return to the richness of reality, the direct awareness of the external world. Here its task is to arrange and interpret the concrete data offered by science, law, politics, religion. The old idealism had two blind alleys—solipsism and agnosticism. The escape from the former is by a return to primordial common sense. The escape from agnosticism, and especially the ego-centric predicament (Perry) is effected by the emancipation of epistemology and a recourse to the discoveries and inventions of the modern age. Further analysis shows that the subject is in no way the creator of the object (Spaulding). Yet objects analyzed disclose a network of relationships between objects and the subject perceiving them (Montague). This relational theory avoids the crudities of naïve realism and escapes the difficulties of subjective idealism. It runs into a metaphysical theory of hylopsychism, which means that the potentiality of the physical is the actuality of the psychical, and the potentiality of the psychical is the actuality of the physical. The latter term of this definition is apparently in contradiction to Pitkin's strictures against German vitalism and French creative evolution as both containing the old, discredited categories of idealistic psychology. Yet while Pitkin disparages the revival of the Aristotelian entelechy he himself defends radical realism as Aristotelian. Against this historical inconsistency we put the service of the new realistic biology in breaking down the barrier between the noumenal and phenomenal.

From this reduction of the old dualism there arises a sense of relief. There is also a sense of greater freedom as against such a view as that of Münsterberg which states that we are free in the noumenal but bound in the sphere of the phenomenal. A final advantage of neo-realism is the possibility of making modern philosophy less anthropomorphic, since introspection is not counted fundamental, nor inward meditation as rich as outward reality. Against these advantages are to be set certain difficulties. It is easy to demolish the high idealism in so far as its world is a projection of the pure intellect and its accompanying illusions (Holt). Cognition may not be creative, but has it not a prime function, if the world of matter is to be rendered cognizable? The new realists need to tell us more about the recent discoveries concerning the constitution of matter. They acknowledge the 'big situation.' It remains for them to show us that this mighty maze is not without a plan.

The Non-Existence of Existence. CHRISTINE LADD-FRANKLIN.

The term existence stands for an incomplete, and therefore an erroneous, conception. There is no such thing as existence, in the abstract,—the term has no meaning,—it needs to be *précisé*,—existence where? Since it is impossible to change the meaning of a current word, there is nothing to do in this case but to adopt another expression—instead of saying that 'something exists,' we should say that it occurs *in* a specified domain of conscious experience. There is nothing,—that is, no nameable concept,—that does not occur in some *domain* (to use the mathematician's word). The main task of philosophy is to classify and strictly to delimit these different 'domains,'—its errors in the past have been largely due to its neglect of (or wrong performance of) this preliminary work. Domains cannot, in general, be defined (in the mathematician's sense of the word)—they are too fundamental for that; they belong to the 'primitives' of philosophical thought,—namely, to the class of 'explicit indefinables.' But they can be *fixed* by the logical 'method of pointing,' which is what takes the place of defining in such cases.

Complete classifications of domains have not yet been made. But the main division of them is into (1) the domain of objects of thought which have (in addition to a pastness coefficient, which attaches to all objects of thought) also a place coefficient, which attaches only to some objects of thought; and (2) those which do not. The terms Space and Time which are usually used in this connection, are far too abstract. They are in their usual sense pure myths, built up out of the not-farther-analyzable conscious-experience coefficients, pastness and place.

The terms *real*, *reality*, etc., are affected with the same obscurity as is the term existence. Everything is real (that is, occurrent) within its own field. The 'real object' of any realist is simply, in the last analysis, that object-of-thought which has attached to it the place co-efficient, (and not the pastness co-efficient only). To attribute anything more than this to it is to indulge in Inference, based upon unjustifiable suppressed premises. One may safely be a Hypothetical Realist, but nothing more. The objectification of the Real Object (like that of 'space' and 'time') is due to insufficient analysis. Philosophy (however the converse relation may hold) has constant need of the support of an acute and profound psychology.

Mechanism and Teleology. J. H. HYSLOP.

The historical origin of the antithesis lies in the opposition between animism and philosophic views. Here the opposition was between the

fixed law of nature and supposed caprice in it. The antithesis was between law and lawlessness, not between the kinds of causes. The Greek mind did not regard inertia as an essential property of matter, assuming that some forms of it were inert and others capable of self-activity. Christianity came and set up the absolute inertia of matter and so found the creative or self-active agent outside of matter. This established a dualism, dividing the world into matter and mind, with 'mechanical' laws ruling one and spiritual laws the other. The antithesis in this sytem was between *vis a tergo* forces to account for motion in matter and *vis in re* forces to account for the phenomena of intelligence. The ancient antithesis was between the regularity and the irregularity of events, regardless of the question whether the cause was external or internal. The Christian antithesis was between external and internal causes. In this system teleology was consistent with 'mechanism,' though it did not supplant it.

In the Christian system 'mechanism' was convertible with the idea of external causation, and was not made convertible with uniformity, though that characteristic might be present and at times was conceded as the essential feature of the 'mechanical.' The whole matter was further complicated by the reversion of modern science to the ancient doctrine of matter, assuming that it might be self-active in some of its phenomena, a view which removed the antithesis between it and the teleological, though the physicist still argued on the assumption that the antithesis was there. He abandoned the Christian conception of matter while he clung to the antithesis based upon that conception.

Further complication came in the confusion of the evidential with the explanatory problem. Ancient thought, whether Greek or Christian, appealed to caprice and lawlessness as the evidence of freedom and teleology, and so drifted into the assumption that regularity was the essence of the 'mechanical,' with some exceptions. This antithesis became coincident with that between 'mechanism' and teleology, and whether this antithesis was lost by changing the doctrine of inertia it still lingered in the evidential problem, creating confusion worse confounded. On the doctrine of inertia a machine or 'mechanical' system implies *vis a tergo* causality, and while it excludes teleology from the action of the machine it does not exclude it from the cause. It will be only a matter of evidence to show that the cause is 'mechanical' or teleological. Neither can be assumed *a priori*. Further, as uniformity and law may define the rational as well as the physical, we cannot appeal to it to prove the mechanical alone. The question is open to find the teleological, and as the teleological is proved to be

consistent with the 'mechanical' in human machines, it may still be so in cosmic affairs. The consistency of the ideas, however, is no evidence of the facts. For the fact of teleology, which has usually been applied to cosmic problems, we must go first to mental phenomena where we find teleology to be indisputable, whatever theory we adopt regarding mental phenomena. Materialism does not exclude teleology here. Then for objective teleology we have again the consistency of the ideas and the facts in proof of teleology in the existence of purpose associated with human creations. Teleology is at least parallel with 'mechanical' phenomena. The conservation of energy cannot displace it here any more than in purely mental phenomena. For objective teleology the evidence is not so clear. Organic life seems to indicate it, but biology opposes it strenuously, and even if admitted the disappearance of all that makes this teleology interesting leaves the teleology without much meaning. Consequently the fundamental condition of proving teleology in the cosmos at large is the proof that consciousness may exist independently of the organism. That once done it will appear indubitable that teleological phenomena are at least parallel with the 'mechanical' in the universe, and it would remain to prove that it is prior and the instigating cause of the 'mechanical' itself.

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REVIEWS OF BOOKS

The Science of Human Behaviour, Biological and Psychological Foundations. By MAURICE PARMELEE. New York, The Macmillan Co., 1913.—pp. xvii + 443.

The avowed purpose of this book is to bring together 'the results of recent work in biology in general and in zoology and neurology in particular, and in anthropology, and to show the significance of this work for the analysis of human behavior.'

The early chapters, the first half of the book, in fact, deal with purely biological matters, the nature of living matter, the cell, the theories of heredity and evolution as they have been formulated by Lamarck, Darwin, Mendel, De Vries, and Galton. Next a series of chapters is devoted to the behavior of unicellular organisms as discussed by Verworn, Loeb, and Jennings. The various tropisms are described and an account is given of the more important theories of the activities of these low forms. The author expresses little sympathy for the conclusion of Jennings that even in these lowest organisms one may find many of the characteristics of the behavior of higher organisms.

Three chapters are devoted to a description of the nervous system and its development. The work of Sherrington, Herrick, and Johnston is summarized with some completeness. Numerous long quotations insure an accurate statement of the views of these men. It might be questioned whether the various views are sufficiently fully introduced and knit together and freed from technical terms to make them comprehensible to the uninitiated for whom alone the book has value, —a question that can only be answered through trial. If it prove available in these respects it will be very convenient to have the material in one volume.

What is perhaps the characteristic personal contribution of the author in the volume as a whole first makes its appearance in the chapters on instinct. This is a questioning of the conclusions of much of the current discussion of instinct. After collating most of the more modern definitions of instinct he eliminates one by one many activities that are somewhat loosely brought together under the term. He has the usual difficulty in distinguishing between reflex on the one hand and the results of intelligent action as crystallized in habit on the other. What he objects to most is the usual custom of using the term

instinct to designate the ends that are accomplished, as in the parental instinct or sympathy, and lumping a large number of indefinite acts together under the one head. After weighing the advantages and disadvantages of the several theories he himself concludes: "An instinct is an inherited combination of reflexes which have been integrated by the central nervous system so as to cause an external activity of the organism which usually characterizes a whole species and is usually adaptive." Testing by this criterion the author must greatly reduce the list of human instincts as given by current writers. He does not supply a list of his own, and if taken sufficiently seriously the definition given would probably practically eliminate instincts from the list of factors of behaviorism. Reflex on the one side and intelligent action on the other might easily expand to fill the gap. Fear, sympathy, emulation, workmanship, gregariousness are among the instincts that Parmelee would reject or would anlayze into a group of instincts or reflexes. This portion of the book is always suggestive and interesting although not always consistent.

Probably the least satisfactory chapters of the book are the three devoted to the psychological problems entitled respectively, "The Nature of Intelligence," "Consciousness" and "Personality, Intelligence, Consciousness and the Nature of Kind." Part of the difficulty is due to too great condensation but more to the fact that the author does not seem fully to have mastered and kept separate the different attitudes and ways of approach that now rule in psychological circles. He frequently brings together in a single discussion statements that are true only if one recognizes that they have been developed from different presuppositions which are in themselves incompatible. The two opposing ways of approach, the objective and the subjective, are those that most often give rise to unclearness. He does not consistently stick to one or the other nor make clear that the two methods are each tenable but cannot be harmonized at present; nor make clear that certain of his conclusions are true if the one set of premises holds, others if the other set is posited. The consequence is an almost all pervasive confusion. This mixing of standpoints comes out clearly in his discussion of the criteria of intelligence. Jennings's functional, but objective, criterion of modifiability of behavior is rejected because it would carry intelligence too low in the animal series. Loeb's associative memory,—strictly taken, a subjective criterion,—obtains more favor, but is made to rest upon the purely structural test of the presence of association centers, and again the ants are said to have association centers, probably from purely functional considerations.

Then the whole matter is further complicated by making intelligence depend upon the presence of ideas. Intelligence implies learning, and then the author says: "I shall limit learning to modifications in the behavior of an animal capable of forming images when such modifications are due to the ability to form images." This last criterion of learning is in principle inapplicable below man, and in the form stated would not truly describe most human learning, which is apparently very little dependent on the presence of ideas. Professor Parmelee admits that it may never be possible to apply his criteria of intelligence to any animal in practice. Similar objection might be made to his insistence in one place that emotion is merely the subjective side of instinct and in another to the assertion that it is nothing but sensation, and then in one of the last chapters making emotion an active force in producing social organization, alongside of and in addition to instinct. The entire discussion in this part of the book, it seems to the reviewer, is a curious mixture of over subtlety and great dogmatism in drawing distinctions of his own coupled with complete failure to appreciate distinctions which have long been found of great value to the psychologist.

In the last four chapters are discussed the forces that make for social evolution. A long summary based on Wheeler and Wasmann is given of the social phenomena as they appear among the ants with casual references to the other social insects. The conclusion is reached that insect societies depend mainly upon instincts. More briefly are discussed the facts of association among the vertebrates, from the fishes to man. The forces that contribute to the formation of societies are classed under three groups, external or environmental, such as the restricted areas of food suitable to a species, the distribution of temperature, etc., and two internal forces, primarily instinct and intelligence. Each is of value only in so far as it shows utility for survival. The whole attitude may be shown in this summary, p. 393. "Man is very social, because he is weak as compared with many species which prey upon him, because his young are born very helpless and remain so for a long time, and because he has a highly developed nervous system which furnishes the basis for a high degree of intelligence, thus making possible a high degree of mental interaction from which result a good deal of pleasure and a great deal of cooperation and mutual aid in the form of a social division of labor which facilitates greatly the securing of food and the other necessities of life."

Of the instincts, the sexual and parental alone receive emphasis. These are not available in the development of the wider associations,

since the author admits with Espinas that the family is in many ways inimical to the formation of wider association. The only advantage is that it develops certain talents that may make easier the development of wider associations. The emotions are said in one place (p. 406) to be forces that increase the effect of the instincts, sexual and parental, and so contribute to the formation of the family. Later (p. 418), in criticism of Sutherland, the emotions are identified with instinct, in harmony with the earlier definition. Among intelligent forces are mentioned invitation, the recognition of kind, communication, made possible by the development of vocal organs and the nervous system, and leadership. The theories that have laid emphasis upon these different forces are briefly reviewed with the conclusion that "all of the writers—McDougall, Petrucci, Adam Smith, Sutherland, Giddings, Kropotkin, Tarde, and Durkheim—have made important contributions to the analysis of social evolution, but it is evident that all of their theories are too unilateral and do not include all of the factors in social evolution."

On the whole the volume provides a useful résumé of a wide range of the literature in English, in general biology, nervous anatomy and physiology, and psychology, that bears upon human behavior. It is of course impossible for any one to be equally familiar with all parts of so wide a field, there must be occasional slips and there would necessarily be difference of opinion as to the emphasis that should be put upon different parts of the field; but in spite of its faults the work should be a convenient work of reference for the student who has not the time or opportunity to read the summaries of fact in the different realms of knowledge from which Professor Parmelee draws his material.

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Prinzipien der Erkenntnislehre. Versuch zu einer Neubegründung des Nominalismus. Von E. v. Aster. Leipzig, Quelle & Meyer, 1913. —pp. 408. Geh. M. 7.80; Geb. M. 8.60.

The subtitle proclaims this work to be an attempt to ground anew the doctrine of nominalism. The proposal bids us pause, for who is unmindful of the three centuries of 'monkish quarrel' when wrangling schoolmen drew out in fine-spun distinctions every theological impliction of this doctrine, made logic confront itself, asked of psychology impossible questions, framed definitions in general terms where the meaning of general terms was itself the matter in dispute, and drove the whole controversy afield into boundless regions of metaphysical speculation? It is true nevertheless that nominalism

triumphed, the authority of the Church was broken, and the vast system of Scholasticism came to an end.

Recently a new nominalism under Monsieur LeRoy has impugned the validity of our science. This has occurred because, as Bertrand Russell has clearly shown, general relations are a special class of universals—neither genera nor abstractions, but a third type the schoolmen overlooked. Now modern science is a system of relations, in the form of general laws and principles. When these are expressed in the language of science, a nominalist may say we get a succession of empty symbols, and science may seem on the point of vanishing. We may indeed respect the nominalist doctrine under this guise as one would respect a test-tube of prolific germs which, if the fragile glass be shattered, might plunge the world again into mental doldrums.

However, the bare conclusion that general terms are empty sounds —*vocis flatus*—and nothing more, is a self-refuting doctrine. One must go on and explain how we come to employ such fictions as if they meant something. And Professor von Aster holds that we can discern the relations of things, and that this knowledge is communicable. General concepts do not exist, but a mental content of a different kind exists and supplies the lack of them. Ordinarily, he believes, language spoken, heard or read, does not stimulate to mental pictures or other representations corresponding to separate general terms. Words awaken, for one thing, "reflexes in consciousness," feelings, which, as it were, supply a running commentary to the thought-process, but feelings do not constitute meaning or sense. It is a definite psychological problem to discover what actually functions in place of general concepts, and this task, being intricate, requires a thorough inductive investigation of the meanings of words.

To define a word by other words does not liberate us from the spell of conceptualism; it leads us either to infinite regression or to an obvious circle. The only procedure open to us is to refer terms back to their ultimate points of reference among the data of sense impressions. The term 'Matterhorn' thus leads to a certain crude fact of experience. We need not seek the actual sense-impression, a memory image will suffice. Such an image is a "natural symbol"; it does not misrepresent, and yet it is not exactly like, the original impression. The author concludes that the difference between memory image and percept is *sui generis*. But this reference of the word to a memory image is safe and satisfactory. It constitutes the second method of determining the meaning of a word.

Most words, however, in fact all except singular terms such as

Matterhorn, do not acquire their full meaning out of what is barely given in sense-impression. The term 'blue,' for example, evinces a reaching out toward more content than is contained in the one particular color that I see or imagine. Or, again, if I hear a rumbling sound and designate it as the roar of an approaching train, the term used indicates a crude fact in complication with an inference about it. These instances will give some hint of a third way in which meaning can be apprehended. They also will furnish a clue to the manner in which genera and abstractions are conceived, for these concepts are not gained immediately through sense, which can reveal only the individual and the concrete.

It is clear that we do not recall classes and abstractions, since we have never apprehended them through sensuous appearances. It is a knowledge not of them but about them that we possess. This sounds mysterious, but does not science deal with real objects which also outstrip sensuous appearances, transcending the data gained from our senses, just as do the ideal objects that we call genera and abstractions? A tree as real object has volume, has a side we do not see; we say its leaves have definite color, however much their appearance alters under varying conditions of distance and illumination. The real object and the species are both indeed generalizations; the real exists at a definite time, the ideal is thought of as timeless: this is the principal difference.

The mind bridges the chasm between sense-given facts and real objects by its propensity to form judgments. We lean on past memories when we infer that a real tree has a side turned away from us. What we mean by saying that the tree is an *actual* object is that the tree will fulfil certain expectations of ours; that is that these will be realized if we see to it that certain conditions are fulfilled. Likewise in the case of ideal objects, their meaning is expressed in judgments such as apply to any or all real objects of the given class.

The author adjusts this explanation very convincingly to a wide range of notions, to those of colors, sounds, the ego, et cætera. Following Ehrenfels on the matter, he asserts that the mind has an immediate perception also of relations in the form of phenomenal appearances; secondarily, that from these the real relations are to be inferred; and thirdly, that we can reasonably discuss ideal relations, such as those of identity, similarity, unity, manifoldness. The world of science receives on these grounds an ample justification, and thus his nominalism leads to realistic conclusions.

Applying these considerations to the nature of language, it must be

evident that words have almost no clear meaning when apperceived totally apart from all context. Language was made to denote relations, to express judgments, especially those that take the form of expectations. Suppose, while walking in a wood, I turn carelessly to inspect a dark streak by the side of the path, and my companion says, 'that is a viper.' It comes as the signal for a definite immediate reaction, a feeling of fear, of aversion, and an involuntary recoil. I am thrown into a state of automatically assumed expectancy. Likewise, when one says, 'this is chalk,' the meaning consists in a series of expectations more or less explicit, which are reducible to the general form. Given certain conditions A, then B will follow. In a scientific concept a great many such judgments may be implied, they obviously need not all be present in consciousness when we use the term.

The theory of Professor von Aster bears in many interesting respects upon the theory of knowledge, the nature of truth, the foundations of science. Viewing science as a closed deductive structure, the highest last principles on which the entire system hangs are upon his inspection found to be definitions of the objects of which science treats. They need, therefore, no special proof. The three primary laws of thought are likewise definitions, conveying what is really meant by the terms 'true' and 'false.' There are also a priori synthetic judgments, some of which become the foundations of mathematics. Such judgments as $2 + 2 = 4$ are universally valid, from the fact that they can always be verified by visual imagery without going back to sense-data. This test shows whether the statement holds for any and all cases of remembered or imagined objects of the kind concerned; moreover, we assure ourselves in this way that we are unable to conceive any case in which the statement could be contradicted. Such a priori truths are not all mathematical; for example, orange is more similar to red and to yellow than it is to green. Such judgments are not empirical, but the relations thus discovered conform to what we are accustomed to define as real. The test of truth here adopted is a modification of the 'correspondence theory,' but the reader will probably feel that judgments, as thus explained, seem self-evident rather in the sense that they are evident to the self than that they carry their evidence in themselves.

The 'objective reality of relations,' which to the reviewer still seems to figure in the theory rather as an assertion than as a verified statement, leads to a rather narrow conception of the limits of pure mathematics. Let us consider von Aster's theory of the logical origin of geometry. He regards geometrical points and lines as species of limits

or boundaries that can be actually visualized. A circle in geometrical space is consequently "anschaulich vorstellbar," that is, we can construct it in visual imagination "in so far as it is to be sought among such figures as we are able no longer to differentiate perceptually" (p. 233). Besides, we are provided with certain a priori synthetic truths concerning geometrical space and figures. A limited number of these are necessary to geometry in that it would not be a possible science without them. These are the axioms.

Objection can be raised when it is discovered what are the axioms thus provided. One is, there can be but one straight between two points. This is controverted by the Riemannian geometry. Another is, there is motion without deformation. This is contrary to the geometry of Lobachevski. These two geometries are secondary growths on the ground that their problems can be visualized only by translating them into Euclidean space. The contention is correct but as non-Euclidean geometries they certainly belong to geometry, even though they do not fit into the narrow frame thus provided for geometry as one of the sciences.

The same narrowness of foundation is observed when psychology is discussed. We have found human knowledge to be of a very definite character, being based on our habit of anticipating future possible experiences. This ideal accords very well with the aim of physical science, but psychology is hopelessly far from being at present an exact science like physics. Moreover, it is hazardous to prophesy what its destiny may be. It seems that for psychology and her kindred to perfect themselves they must seek laws of action and systematize human nature. To the reviewer this proposal appears to involve a violent perversion of what is already known about personality as an object of science. Especially hazardous is the advice since it is suggested that in order to frame laws of the mental life we should make free use of the concept 'sub-consciousness,' of which almost any random assertion may pass muster if it seems to aid progress.

Considering the abstruseness of the problems, their treatment by Professor von Aster is remarkably clear and effective. The reviewer nevertheless bespeaks some indulgence, if he has misinterpreted the author's meaning in any essential point, since the nature of the problem makes its discussion complex and difficult, and it is scarcely possible to give an adequate account of so intricate an argument within so narrow a compass.

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Psychology applied to Legal Evidence and Other Constructions of the Law. By G. F. ARNOLD. Calcutta: Thacker, Spink, & Co. 2d ed., 1913.—pp. xi, 607.

This work might more descriptively be named (after the fashion of seventeenth century broadsides): "An Arraignment of Law at the Bar of Science; wherein may be discovered that, as Ignorance of the Law is no Valid Plea for the Layman, so Ignorance of Science is no Tenable Plea for the Law; and wherein is set forth by Examples the Extent of Law's Contrariety to Science."

The first edition appeared in 1906; but few copies reached this country. The present edition has been considerably enlarged, as well as thoroughly revised. The author is described as "late member of the Burma Legislative Council, and formerly offg. Deputy Secretary to the Government of India Legislative Department"; and, if we remember correctly, the first edition noted also that he had held judicial office in Burma.

The chapters bear the following titles: General Introduction; Some Specific Defects of the Law; Intention; Attention; The Normal Man; Causation; Belief, Doubt, Tests of Truth, Reality; Feeling, Imagination, Prejudice, Habit; Insanity; Hallucinations, Illusions, Hypnotism, Sleep; Identity, Similarity, Comparison of Handwriting, Imitation; Responsibility, Punishment, Justice; Differences of Race; and two Appendices. The thesis of the book is that the law must advance with science; and the method is, taking psychology as a typical modern science, to outline its teachings on specific topics, and then by these to test the validity and aptness of the law's rules affecting such topics. It happens that the topics selected fall mostly in the fields of Evidence and of Criminal Law, but their range is much broader than those alone.

The first chapter sounds a note which has been already heard in this country, notably from Professor Roscoe Pound among lawyers, from Professor Hugo Münsterberg among psychologists, and from Professor Overstreet among philosophers. It is thus expressed: "If there is one path which lawyers and judges fear to tread, it is that of philosophy. . . . But there are signs that a new situation will have to be met even in the conservative realm of law." Mr. Arnold's exposition of this thesis is temperate but severe. We wish that every lawyer could read it. 'Tis well that a lawyer himself is found preaching on this text. The minds of one hundred thousand men in this country have to be opened to the new truth. You cannot open men's minds with a hatchet. Nothing is left but to persuade them to listen; and they listen best to one of their own kind.

In the second chapter, the author formulates six specific charges against the law; (1) its artificiality of language obstructs its being understood by the layman; (2) it is unduly narrow in its methods of procedure; (3) it neglects other sciences, and relies on its own inadequate data; (4) it gives excessive regard to outworn precedents; (5) its rules of evidence are not based on the facts of experience; (6) these shortcomings produce failure of justice. All these six, we think, fall in line as corollaries or examples of the third. That expresses the root of the trouble; for, as Mr. Arnold puts it, "The world of our law courts is not something independent, as the lawyers strive to make it, but is a mere element in our total experience." If at this moment we could trepan the legal mind so as to make it appreciate this truth, the rest of the desired improvements would naturally follow.

In the ensuing chapters, Mr. Arnold takes up specific legal rules and terms, testing them by science. His method can be sufficiently seen in Chap. III, on Intention. Beginning with the terms "will," "intention," "motive," he describes them from the point of view of the modern psychologist and philosopher, quoting from Bradley, Höffding, Wundt, Stout, Sully, and other accepted authors. He then takes up certain legal principles, such as "every person must be taken to intend the natural consequences of his act," "a person may be estopped to deny the truth of his assertion, even if he has made the false representtion without fraud or negligence"; and proceeds to criticize these choice and orthodox bits of scholastic logomachy. Copious examples are given, from Indian and English decisions, of the verbal pedantry and unpractical nonsense to which such unscientific terminology leads the law. And this method of exposition he continues throughout the other chapters.

Lawyers have been brought up from their first days on this inadequate lingo, and cannot be expected to realize how unnatural and pedantic so much of it is. A defective terminology is one of the greatest defects of the law. Yet so inveterate is the lawyer's complacence with it that the two or three simple scientific terms which the writer dared to devise for a 3,000-page treatise on Evidence were laughed at goodnaturedly as allowable follies, and are still a favorite theme of jest by legal friends. The explanation is that the law naturally gets its terms from below, *i. e.*, from daily usage, and not from above, *i. e.*, from the ether of scientific research; and that the law has many important problems to attend to which dwarf the claims of terminology. Nevertheless, in a period like the present, when the law is faced with the necessity of adapting settled principles to new

instances and to new truths of science, this lack of a terminology becomes a tremendous handicap, and is today a main source of its inability to cope speedily with the situation.

Mr. Arnold's book is mainly destructive, not constructive,—as indeed he frankly admits in his Preface. But, at today's stage, this method is inevitable. And his method is correct and valuable in that he begins by invoking and expounding the data of science and then measuring the law's concrete rules by those tests. What we need in this country today is more books of this kind. Every law-student should be given this book, and more like it, to open his eyes to the need of squaring the law with science.

Of course, there is going to be much misuse of such books, before we get through the stress and storm period. "Laymen think law is all clover," as one of our law-school songs has it. That is, laymen are apt to believe that all that is needed, to cause the laws' defects to crumble away, is a due quantity of harsh criticism. Even professors of psychology and of sociology and of political science have been known to exhibit this superficial notion. But they forget that the law is simply a set of attempts to solve vast and complicated facts of daily life. The maelstrom of facts will be there, even if this or that set of rules is withdrawn. Some other set of rules must be supplied, to keep the maelstrom in order. It may seem to the scientist easy enough to criticize the law's definitions of "intention," "motive," "negligence," "cause," and the like. But let the psychologists and the philosophers leave their study-chairs, mount the judicial bench, and try to lay down a set of rules, fair in result and strictly equal for all conditions of men, and capable of solving the millions of variant cases that have to be met from day to day; and perhaps they would find that the task they attacked was not so scientifically simple, after all; that rules of thumb were a godsend; that abstractions do not always work in the concrete; that in the welter of fraud and honesty, danger and safety, lies and truth, contracts and wrongs, statutes and ordinances, mortgages and writs of error, capitalists and usurers, drunks and derelicts,—certain everyday notions were usually the safest guide for the day's strenuous toil at keeping the world in order and decently safe and honest; and that the judge and the lawyer may be charitably excused for not letting go of the fairly safe old adages of Coke and Blackstone, until Modern Science has constructively devised in their stead some new ones which will work as well in the court-room as they do in the quiet laboratory.

In short, neither the philosopher alone, nor the law-man alone, can

meet the situation. Our course today is two-fold: to wake up the older lawyers, and to educate the young ones, to the claims of science; and then to let the New Era Lawyer work out the final solution for himself. Mr. Arnold's book ought to help greatly in this task.

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Self-Realization. An Outline of Ethics. By HENRY W. WRIGHT New York, Henry Holt and Company, 1913.—pp. xiv, 429.

This volume, by Professor Wright, amply justifies itself as a text-book on Ethics. Though not without merit as an attempt at independent construction, it is valuable chiefly for its adaptability to the needs of college students. It is comprehensive, well-arranged, fair for the most part in its criticisms, and generally clear and forceful in style. The argument is built upon the thesis that man's highest good is Self-realization, interpreted as the organization and development of all his capacities. This one principle correlates all our moral judgments, and establishes the supreme authority of moral obligation. As the *summum bonum*, Self-realization harmonizes Hedonism and Rationalism, Intuitionism and Empiricism, Egoism and Altruism, self-assertion and self-sacrifice; it provides for the permanence of moral distinctions, whatever the possible development of the moral life; and it furnishes the only principle for a satisfactory classification of the virtues.

Without any historical preliminaries, the treatise opens at once with an exposition of the nature and scope of Ethics. This has the spirit, if not altogether the manner, of Professor Seth in his *Ethical Principles*. Indeed, the reader is constantly reminded of Seth, to whom fitting acknowledgment is made in the preface. But we have not a mere rearrangement of Seth's material. The book gives evidence that Professor Wright is not only a close student of ethical literature, but a thinker of considerable insight, both critical and constructive. This discussion of the nature and scope of Ethics constitutes Part I, under the title, "Ethics as the Science of Good Conduct." Conduct includes "all of the activity by which man's personality gains expression." As against Herbert Spencer and Professor Dewey, the author contends that no conduct is ethically indifferent, since all ends and activities are expressions of a unitary personality. In this part of the book the usual definitions and explanations are given. The moral ideal is the problem of Ethics. The good that completely satisfies the will (= the self) can be none other than the will itself in its fullest realization. The moral ideal must be "an expression of what is latent

in the character of the agent and within the range of his possible attainment. . . . In order to awaken enthusiasm and inspire effort the ideal must be raised far above the actual and represent a height of attainment which appears impossible enough to all save the enraptured idealist" (p. 35).

In Part II, on "The Nature of the Good," are shown the claims of Hedonism and Rationalism as one-sided and opposing schemes. There is perhaps nothing in the book more admirably done than the discussion of volition as an organizing agency (Chapter IV). Volition is the self in action, exercising its intellectual and emotional resources in realizing its ideals of good. It is "the synthetic activity which includes within its scope all these lesser activities of feeling, thought and action" (p. 135). Volition is creative of self-conscious personality, is in fact the self in the process of self-realization. It must advance on its own initiative to grapple with an uncertain future. The threadbare question of freedom is judiciously handled. Extremes are avoided. Freedom in the sense of self-direction is allowed. The author rightly sets aside as absurd the device of those who in their zeal for freedom contend that the will may follow the weaker motive. "The explanation of freedom is self-determination, the explanation of self-determination is development—the realization of the latent and often unknown possibilities of human nature" (p. 167).

Full Self-realization, or the complete organization of human conduct, requires the realization of (1) the Individual Self, (2) the Social Self, (3) the Universal Self. The third and culminating phase concerns the adjustment of human interests to the All-encompassing Reality. This, though a question of religion rather than of Ethics, is an essential aspect of self-realization. It involves not so much specific activities in addition to those prescribed by individual and social duty as "a personal attitude—resignation to" (better, accord with) "the divine will, and trust in the divine wisdom."

That the principle of Self-realization furnishes an adequate criterion for the moral life is argued at length and, as it seems, convincingly in Part III, "The Good as Self-realization." After an introductory consideration of Hebraism and Hellenism and their synthesis in the Christian ideal, the author takes up the criticisms of Professor Sorley and Professor Boodin. In reply to Professor Sorley's assertion that Self-realization "is void of moral content and cannot express the nature of the moral ideal," he points out that "according to Self-realization, the Good lies in the realization of the *whole* self in distinction from any part or division of the self. From this ideal we secure a clear and decisive

standard of moral judgment. The line of distinction is drawn between actions which contribute to the satisfaction of all the capacities of the human self and those which serve to gratify only single ones. The former are judged good: the latter are pronounced bad" (p. 214). The application of a criterion so general to questions of specific right and wrong is often obscure and difficult. "This does not lessen the value of Self-realization as the Ideal, however; for, in order to fulfil this office, a conception must . . . be universally applicable throughout the entire field of conduct. Hence while in the regulation of daily life we may find that principles, more definite in meaning and limited in range, are usually of greater assistance, still on critical occasions when these principles themselves are called into question such an ideal is indispensable as a final court of appeal. The Ideal may be likened to the polar star which, far removed from the affairs of our planet, gives to the surveyor of the earth's surface his ultimate direction of reference" (p. 215).

Professor Boodin's criticism that Self-realization does not permit us to make distinctions of moral worth, as between the conduct of different individuals, is handled with equal decisiveness and with rather more attention than it deserves. The entire argument of the book is by implication an answer to both these critics. But the author unfolds freely his doctrine of Self-realization as the ultimate criterion of conduct in the two great fields of human value—individual and social interests. There emerge the maxims of Prudence and Idealism, of Altruism and Humanitarianism.

The difficult problem of self-sacrifice Professor Wright seeks to solve by conceiving of moral development as a progressive self-organization. He illustrates it by the evolution of an organism, in which parts developed independently are subordinated to the interest of the comprehensive unity. In the moral life, self-mastery causes real suffering, but seeks the individual's total interest; and on a larger scale, self-sacrifice entails real loss to the individual, but promotes the welfare of society. Professor Baillie's exposition of self-sacrifice in the *Hibbert Journal* for January is more illuminating. Further, Self-realization furnishes the strongest motives to right conduct. The egoistic, altruistic and religious motives, inadequate singly, are organically united in the motive of Self-realization, which expresses itself as self-respect, philanthropy and reverence. A life thus unified and harmonized brings happiness.

Part IV, on "The Life of Self-realization," hazards, with the courage that it praises, a classification of the virtues. Professor Wright's achievement here is a gauntlet to the apathetic and the skeptical.

In general, the author, while not over-anxious to be practical and edifying, speaks with such clearness and conviction that his book is a moral tonic. He recognizes what is sometimes forgotten by his fellows, that a prime requisite of a text-book on Ethics is evident system, a logical structure as nearly faultless as possible. Accordingly, he endeavors to make his work practical in the best sense.

Professor Wright regards Ethics as a science, yet he does not allow himself to be hampered by too strict an interpretation of the term. He does not hesitate on occasion to pass from the scientific to the philosophical point of view. While, in general, efforts to fuse the scientific and the philosophical are ill-advised, Ethics is so distinctively and fundamentally a philosophical discipline that a hard-and-fast scientific treatment limits unduly the range of discussion. Professor Wright treats Ethics as a science only in the sense that its material lends itself to systematic arrangement, with Self-realization as the organizing principle.

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Introduction to Philosophy. By ORLIN OTTMAN FLETCHER. New York, The Macmillan Company, 1913.—pp. xvii, 420.

To write a book which will successfully meet the beginner in philosophy on his own level and safely conduct him into the difficult path of philosophical inquiry without benumbing his spirit and chilling his interest in the subject is a desperately difficult task. One who undertakes to write such a book is at once confronted by many perplexities. Where shall he begin and where leave off? What shall he discuss and what shall he exclude from consideration? With how great a show of finality shall he present his conclusions? Indeed, what conclusions shall he reach? For it must be assumed that the student for whom the book is primarily intended knows little or nothing about philosophical problems and methods, that too much or too little in the book will bewilder him and give him a false impression of what philosophy really is, and that too great a hesitancy on the part of the author to express his own views in the light of conflicting opinions will lead to scepticism concerning the possibility of the science of philosophy itself, just as surely as too great a degree of dogmatism in the presentation of the various problems will defeat its own end and leave the student untouched by the invigorating stimulus of the philosophic spirit. To write a first book in philosophy is a task not to be lightly undertaken.

The volume before us is a very serious and a very commendable

effort to accomplish this difficult task. It is the product of several years of classroom work, as every such volume should be, is written in a very terse and vigorous style, and can hardly fail to encourage the student to philosophize on his own account—a characteristic of the book which cannot be too highly praised, and which should commend it to the careful consideration of all teachers of philosophy who are interested in finding a suitable text for use with first year students.

The scope of the work can perhaps best be indicated by a summary of its contents. It is divided into four parts. Part I is introductory. Part II is historical, giving a very comprehensive, but very general summary of the views of the principal philosophers from the pre-Socratics through Spencer; the thought-tendencies of the present are indicated. Part III constitutes the body of the work, and is subdivided into two divisions. The first of these divisions is epistemological, discussing the nature of knowledge, the relation between knowledge and reality, and the nature of reality. The second division is devoted to a consideration of the categories, the categories treated being those of Permanence and Change; Individuality; Substantiality; Quality; Quantity; Space; Time; Activity, Rest, and Motion; Causality; Finality; Individuality and Personality; Sociality. Part IV deals with the problems of the freedom of the will and the existence of God.

In the preface the author frankly states that he has a philosophical doctrine, and that that fact "determines the treatment given the questions and opinions" discussed in his book (p. vi). His philosophical doctrine is that of objective idealism, and the conclusions and opinions which his volume sets forth are those which naturally follow from this peculiar point of view. This bias, however, does not lessen the value of the book as a text, since all questions considered are discussed with eminent fairness and opposing views are stated and criticized. Every book must be written from some point of view, but that fact does not necessarily make for dogmatism in discussion. Teachers who agree with the point of view of the present text will find it helpful; those who are forced to dissent from its point of view will find it stimulating.

While I personally agree with the point of view from which the book is written, and while I accept most of the conclusions which it reaches, there is one defect in it which, as it seems to me, will greatly impair its usefulness as a text-book. The historical part of the book will very probably not serve the purpose which the author intends; on the

contrary, I am inclined to think that it will defeat its own end. Instead of helping the student for whom the book is presumably written, this historical introduction will rather confuse him. In my opinion, it is simply impossible to give in one Part of an Introduction to Philosophy a summary of the whole history of philosophical speculation, even though one hundred and seven pages be devoted to that purpose, which will be of very much assistance to the average student in comprehending problems discussed in another Part. This arrangement presupposes powers of synthesis which the uninitiated student does not possess.

This criticism is not to be interpreted as implying that I object to an historical introduction to the independent discussion of philosophical problems. On the contrary, I should be inclined to insist, and in my own teaching I proceed upon the assumption, that the historical introduction is essential. What I am objecting to here is only the manner in which the historical introduction is treated in the present volume. I believe the treatment is unpedagogical; the historical summary will, I am convinced, prove practically useless so far as the student is concerned, despite its general accuracy. There is too much material included in it, in the first place; and the opinions of Plato, Aristotle, Kant, Hegel, and the rest are separated by too many pages from the particular problems where these opinions would be of assistance to the struggling undergraduate. I can well see the bewilderment of students as they wander through these one hundred and more pages, packed full of the thoughts of the great thinkers of the past, wondering what it all has to do with an introduction to the discussion of philosophical problems; and when at the end of the semester's labors they have finished the book, I dare say few, if any, would be able to tell on the basis of their own experience why the historical part of the book should have been written at all.

A better method, it seems to me, would have been to give a clear and concise account of the historical side of each problem as it comes up for consideration. Despite his extended historical introduction, the author finds this method necessary in his discussion of some of the categories, as, for example, that of Substantiality. Here (pp. 265 ff.) we find a summary of the views of both ancient and modern philosophers concerning Substance inserted as an introduction to the author's (and the student's) independent investigation of the problem; and here the historical part of the discussion seems vital and meaningful, as I have no doubt the student will find it to be. Had all the other categories, as well as the problem of knowledge and reality, been

treated in the same way, the book, in my estimation, would have been greatly improved as a text. It is to be hoped that, in the next edition, the author will merge Part II into Part III, using the historical background for the one specific purpose of orienting the student with reference to the problem in hand. It seems to me that the usefulness of the book as a text for beginners will be decidedly increased when this is done.

The arrangement of the book into sections and sub-sections is admirable, and will greatly help the student to keep his bearings. The book is in very good print, an index is supplied, and a list of references is given for each chapter. The author has referred in this list almost exclusively to works with whose general conclusions he is in agreement. It might be questioned whether reference should not also have been made to works of other philosophic faiths; had this been done, the value of the bibliography would most certainly not have been diminished. It is very easy, however, for those who use the book as a text to supplement the bibliography in any way they may see fit, or even to substitute another.

G. WATTS CUNNINGHAM.

MIDDLEBURY COLLEGE.

NOTICES OF NEW BOOKS.

Le Rapport Social, Essai sur l'objet et la mèthode de la sociologie. Par E. DUPREEL. Paris, Alcan, 1912.—pp. iv, 304.

The aim of the volume is to propose a general concept which may be a useful instrument for the investigations of sociology. Such concepts have previously been sought in imitation (Tarde), constraint of the individual by collective society (Durkheim), and consciousness of kind (Giddings). The peculiar problem of sociology requires that psychological conditions and physical facts be interpreted in mutual relation. The concept of social *rapport* (named though not developed by Bouglé) is comprehensive enough to include the field, while it is not liable to the objection of being imported from some other situation. A social *rapport* exists between two individuals when the existence and mode of behavior of the one has an influence upon the psychological states and acts of the other. The various social sciences are considered as falling under special cases of rapport.

The most important section of the book is its treatment of the specific relations of equality and inequality. If A is indifferent to B, while B desires something which depends on B, we have inequality. Suppose now that A takes advantage of B's desire and chooses among the services which B offers, A admits that to this extent his satisfaction depends on B. A synthetic, social *rapport* which may be called equality thus tends to replace inequality. This conception of equality is much more significant than that which depends merely on resemblances in individuals. Social classes result from a combination of equality and inequality. The whole social mechanism is comprised under the process of class formation and dissolution. In aristocratic societies certain inequalities tend to accumulate and condense into transmissible advantages; in democracy the reverse is true. In actual life both tendencies are at work. Three causes make for equality, the mechanism of normal life (exchange, legislation, money as medium, communication, etc.), conscious efforts of inferiors to rise, conscious efforts to promote equality as an ideal. In general those factors favor equality which make the social point of view preponderant, that is, the dependence of each upon each and upon all. On the other hand, inventions, novelties, are fruitful in inequalities—temporary at least. A final chapter on social logic considers the social forces at work in the spread of ideas, particularly of "confused" ideas as contrasted with the "clear" ideas of definite science. Such confused ideas are most moral and religious conceptions. They prevail because of their practical rather than because of their logical value.

Some of the applications made of the general concept of *rapport* seem of very dubious instructiveness. On the other hand the *rapport* of equality

justifies itself as a fruitful conception. One might question the adequacy of deriving this from a dependence based on a desire of what another has. Race, color, 'clannishness' as causes of class do not fall naturally under this head.

J. H. TUFTS.

THE UNIVERSITY OF CHICAGO.

Immanuel Kants Werke. In Gemeinschaft mit HERMANN COHEN, ARTUR BUCHENAU, OTTO BUEK, ALBERT GÖRLAND, B. KELLERMANN, herausgegeben von ERNST CASSIRER. Band III. *Kritik der reinen Vernunft.* Herausgegeben von ALBERT GÖRLAND. Band IV. *Schriften von 1783–1788.* Herausgegeben von ARTUR BUCHENAU und ERNST CASSIRER. Berlin, Bruno Cassirer, 1913.—Band III, pp. 675; Band IV, pp. 558.

The continuing volume of Kantian literature must be a perplexing phenomenon to those who believe that the history of philosophy has had its day. Twenty years ago, when the classical traditions of philosophy were more universally accepted, at least in the English-speaking world, the serious student of Kant had to choose between two standard editions of the philosopher's complete works, both badly out of print, the Rosenkranz and Schubert edition of 1838–1842, in twelve volumes, and the revised Hartenstein edition of 1867–1868, in eight volumes. Both were printed in Roman type and each had its strong points: the Rosenkranz edition gave the text of the *Kritik der reinen Vernunft* in its original form [first edition], if that was to be considered an advantage, and also was printed in excellent type, while the revised Hartenstein edition was not only sufficiently legible, but decidedly convenient in the eight compact volumes, and had certain distinct advantages, like the chronological arrangement and greater textual accuracy, which commended it to most scholars. But, while the revolt against the traditions of philosophy was gathering some headway in the English-speaking world, there began to be published in 1902 the monumental Berlin edition of Kant's complete works, edited by the Prussian Academy of Sciences. In mentioning this monumental edition, indispensable, of course, for university libraries, it may seem finical to refer to the not very agreeable printed page. If patriotism had to dictate a return to the German type, a somewhat more generous page would have been an improvement.

The appearance of a new edition of Kant's works, with Dr. Ernst Cassirer as general editor, was noticed in the May, 1913, number of the PHILOSOPHICAL REVIEW, and the contents of Volumes I and II were there indicated. Those volumes contain the pre-critical writings, representing the period from 1747 to 1777. Volumes III and IV, which have recently appeared, confirm the favorable impression made by the initial volumes. Both the editors and the publisher are to be congratulated upon their success in bringing out this admirable edition. The printed page, in the clearest of Roman type, is on the whole more satisfactory than that of any previous edition,—only comparable, in fact, with that of the very legible Rosenkranz edition. Paper as well as type is all that could be expected in a worthy edition of a great philosophical

classic and the editors seem to have done their work well. The paging of the original editions is indicated as well as varying readings. Volume III, edited by Dr. Albert Görland, contains the *Kritik der reinen Vernunft*, following the text of the second edition (1787), with an appendix giving the variations from the text of the first edition (1781). Volume IV, edited by Dr. Artur Buchenau and Dr. Ernst Cassirer, contains the *Prolegomena zu einer jeden künftigen Metaphysic*, the *Grundlegung zur Metaphysik der Sitten*, and the *Metaphysische Anfangsgründe der Naturwissenschaft*, as well as the lesser writings published between 1783 and 1788. When it is considered that the set will be complete in ten volumes, with two additional "Erläuterungsbände," and at the very moderate price of seven marks a volume (unbound), it will be evident that students of philosophy cannot fail to appreciate this new and most excellent edition.

ERNEST ALBEE.

CORNELL UNIVERSITY.

Spinozas Philosophische Terminologie. Von GUSTAV THEODOR RICHTER. Leipzig, Verlag von Johann Ambrosius Barth, 1913.—pp. 170.

This work is based upon the assumption that a determination of the meaning of Spinoza's terms in their historical setting is an indispensable preliminary to the understanding of his philosophy. Because of the lack of such linguistic investigation, commentators have disagreed and Spinoza has been misrepresented. It is true that Spinoza himself is to a certain extent accountable for this vague and erroneous interpretation, in that he gives new meanings to traditional terms, modifies the meaning of his own terms in the course of his literary activity, adapts his language to his varying audiences, and softens it to prevent offense. Nevertheless much confusion could have been avoided if the method of this volume had been earlier pursued. The terms here treated are those of the ontology: *attributum*, *attributa infinita*, *in se*, *per se*, *a se*, *esse*, *concipi*, *substantia*, *modus*, *modificatio*, *accidens*, *affectio*, *modi infiniti*, *res fixæ et æternæ*. The author carefully distinguishes the senses in which these words have been used from the time of Aristotle on, with particular reference to their signification in the period of Scholasticism. The investigation is minute, and yet sane, controversial, and yet constructive. At times the discussion seems unjustifiably subtle; *e. g.*, regarding the synthetic or analytic relation of attribute to Substance and the bearing upon this problem of the three verbs, *exprimere*, *explicare*, *constituere*, or again, the differentiation of the logical and ontological relations of attribute to Substance. All this seems more suited to such an involved material as Scholasticism, of which the author is a profound student, than to the broader and more practical propositions of Spinoza. Yet the author anticipates just such criticism in the final paragraph of Chapter I where he admits that his results are often not conclusive because of Spinoza's own unresolvable ambiguity, that many of the problems he has considered doubtless never occurred to Spinoza, and reminds us that Spinoza's purpose was primarily ethical, and not logical. (Again the analysis of *in se*, *per se*, and *a se*, is pushed to a bewildering minuteness, yet the term *per se concipi*

is asserted to be used quite generally, without any *nuance*. Apparently, detail is not offered gratuitously.) Again, if the parallelism of *simul*, *postia*, and *statim* in a passage in Geulincx with the same words in a passage on the same subject in Spinoza seems an absurdly slight argument for a connection between the two, one must recall the prefatory remark that the case has been already established by substantial arguments and that these points are but small additions. Taken as a whole, this interesting argument for the influence of Geulincx upon Spinoza is convincing. The criticism is natural that if the author is conscious of his own occasional over-subtlety and has at his command enough really significant arguments, he might have spared himself and the reader some of the detail. But the answer would seem to be that only by such painstaking elaborateness is he able to settle long-standing disputes and to make solid an accurate interpretation. The frequency of controversial digression is defensible on similar grounds. The interpretation of attribute as the realization of the formal essence of Substance in some concrete material could scarcely be established without reference to various disputed questions. —Similarly, it is evident that no one definite conception of Substance, of the relation of mode to Substance, of the 'fixed and eternal things' mentioned in the *Treatise on the Improvement of the Understanding*, could be maintained without disposing of various dissenting opinions. Many of the views given are unconventional, and even in a measure original, but it would be difficult to refute a position which rests upon an exceptionally thorough knowledge of Spinoza, his historical back-ground, and the important commentaries, and which adduces as proofs seven hundred and sixty four exact references for one hundred and twenty one pages of matter. The book is a highly special, but in its field, an eminently valuable, piece of research.

KATHERINE EVERETT GILBERT.

L'Année philosophique, 1911. Publiée sous la direction de F. PILLON. Paris, Librairie Felix Alcan. 1912.—pp. 290.

The twenty-second annual volume of *L'Année philosophique* has a longer table of contents than usual; but the more interesting articles are still those of the veteran contributors, MM. Pillon and Dauriac. Most of the others are, by comparison, rather slight, with the exception of one by M. Delbos. Where critical discussions occur, the monadistic idealism of the editor is the usual norm; but otherwise the subjects are too varied to permit a single characterization of the volume. A brief résumé of the articles is therefore substituted.

1. G. Rodier; "Note sur la politique d'Antisthene." This is a brief but interesting correction of Zeller on a point of interpretation. It is argued that the myth in Plato's Politicus concerning human society under the reign of Chronos in the Age of Gold, and the passage in the Republic (372A) describing the "state of nature," are not intended as indirect criticisms of Antisthenes, as Zeller supposed, but represent Plato's personal conviction. The passage in the Politicus should be taken as an allegory of the perfect state which is de-

scribed in the Republic; and the allegorical form is chosen precisely because, when the Politicus was written, Plato had concluded that the ideal of the Republic was unattainable "under the reign of Zeus."

2. G. Lechalas; "Les années d'apprentisage d'Eugène Fromentin." This article deals with the origins of the famous painter's well-known novel, *Dominique*, and seems rather out of place in its present setting.

3. V. Delbos; "L'idéalisme et le réalisme dans la philosophie de Descartes." This is an excellent example of objective interpretation, within the short space of fifteen pages. The analysis is clear and apt, and the citations are useful. Descartes's *cogito ergo sum* did not reduce all being to thought; it simply asserted the immediate certainty that there was a being which thought. The part of idealism in the Cogito is "the priority of the affirmation of thought to any object in itself," and the statement that our existence in itself is entirely constituted by thought. The part of realism is that Descartes believes it necessary to posit our existence in itself. That *esse est percipi* Descartes never considered for an instant; otherwise why did he make the passage from idea to existence one of his chief problems? The "productive imagination" of Fichte he uses hypothetically in the Third Meditation, but only as a temporary means by which his methodological scepticism may dispose of naïve realism. In brief, if Descartes is to be called an idealist, it is only in the sense in which Plato usually is. He tends to define ideas as existences, as intelligible essences, rather than existence as idea. The Cogito is the first truth in order of discovery; but the first truth in itself is the existence of God, and innate ideas are true precisely because we have no share in producing them.

4. L. Dauriac; "Quelques réflexions sur la philosophie de M. Henri Bergson." A witty *causerie* which is worth reading for its instructive as well as its amusing qualities. After a playfully emphatic statement of why and how Bergsonism appears to all 'scientists,' mathematicians, 'rationalists,' and Kantians as the adversary of all sound philosophy—with some interesting comments as a spectator of the combat—M. Dauriac goes on to suggest that Bergson may not, after all, differ so absolutely from Kant as some of his critics have supposed. Is not Bergson's opposition of space plus determinism plus understanding to time plus freedom (evolution) plus intuition almost an exact parallel to Kant's opposition of phenomenal determinism plus understanding to noumenal freedom plus reason?

5. F. Pillon; "La troisième antinomie de Kant, la croyance à la liberté, le dilemme de Lequier et le primat de la raison pratique." This article, which runs to fifty-nine pages, is the longest and weightiest in the volume, and deserves a longer summary than can here be given. M. Pillon, now surely the *doyen* of French philosophers, is still intellectually adroit and vigorous. The fundamental error of Kant, it is held, is to be found in his making time, as well as space, subjective. Wishing to save moral freedom, he forgot that it must by its very nature be temporal, for it has reference only to future acts. If time be merely phenomenal, then purpose, personality, and duty are equally so. Kant is really as much determinist as Spinoza and Leibniz. Descartes is the

true opponent of determinism among the moderns, for freedom is the essential condition of the methodical doubt which is the presupposition of his whole system. It is true that like Renouvier he falls into the error of supposing that the will can create an infinitesimal amount of physical force. M. Pillon argues that the logical development of 'monadistic idealism' avoids such difficulties. Such an idealism holds that while space—and therefore mechanical causation—is subjective, time is real; and it does not fall into Leibniz's error of treating the physical order as though, matter apart, it were equally real with the psychical. Its proof of freedom is drawn from an examination of the categories, which shows, for example, that every series is finite, and therefore has an uncaused cause. Leibniz and Lequier are corrected from this point of view, and the article concludes with a sturdy rationalistic credo, which affirms that there is but one reason, and that is sufficient.

6. Ch. Maillard; "A propos de quelques ouvrages recents sur la philosophie allemande postérieure à Kant." "An attempt to refute the reasoning of the *Wissenschaftslehre* and of Hegel's *Logik* in its essential principles"—in fourteen pages! M. Maillard should have taken more space; but his criticism deserves attention. He holds that Fichte, in revising Kant, committed three capital errors. First, he substituted a single principle, the Transcendental Ego, for the plurality found in Kant. This is an "abandonment of the very principles of criticism," which is "an exposition of the totality of principles which make the sciences possible, the reality of which is deduced from the very existence of scientific knowledge, considered as an irreducible fact." Second, he confused logical correlation, as of subject and object, a true principle of synthesis, with contradiction, and reached the absurd conclusion that consciousness consists in a union of contradictories. This led him to confuse the deduction of the categories with a solution of the cosmological antinomies, and has made it impossible to determine whether it is the finite or the absolute ego which he regards as real. Third, he transforms ego and non-ego from logical correlates into real and opposing forces, thus opening the way for the subsequent rise of materialism from absolute idealism. Hegel exaggerates the defects of Fichte; "a confused syncretism from every point of view, the Hegelian philosophy floats at the will of the interpreter from Heraclitus to Parmenides, from Berkeley to Spinoza."

7. H. Bois; "L'Idéalisme personnel d'Oxford: M. Hastings Rashdall." A study of Rashdall's metaphysics, based on all his published writings. One of his ethics and theodicy is to follow.

8. L. Dauriac; "Une philosophie de la religion." A brief tribute to the memory of the Genevan philosopher, J. J. Gourd, in the form of an appreciation of his posthumously published work bearing the title of this article. Gourd's doctrine of 'incoördinables' has points of similarity to Pascal, to pragmatism, and to Kant; but it is, nevertheless, in its essentials, quite original.

Reviews of eighty works published in France during 1911 terminate this interesting volume.

EDMUND H. HOLLANDS.

UNIVERSITY OF KANSAS.

Die wissenschaftliche Idee. By HELMUTH PLESSNER. Beiträge zur Philosophie, No. 3. Heidelberg, Carl Winter, 1913—pp. 152.

In the preface the author sets forth the main purpose of the book as an attempt to understand what is meant by the phenomena which we call "the sciences." In this connection he is immediately brought face to face with the assumed necessity for the unification of knowledge. The impulse to unity seems to be a necessary law of our intellect. This peremptory need of reason for unity comes to light clearest of all in the sciences; it explains, in a way, their reason for existence, and therefore it must be our aim to dig down to the root of this universal and eternal impulse.

There follows then a brief discussion of the meaning of the concept 'science,' wherein there is found to lie the idea of order. Science is, in fact, ordered knowledge directed toward the universal. It has no interest in the particular as such, but only in the particular in relation to its surroundings. The search for the universal in the particular is the real business of science. If we now turn our attention to the specific sciences themselves, we find that not all of them are interested in the discovery of laws. History, for example, is concerned with tracing the steps in the development of the world, unless it be that we take Lamprecht's standpoint. And here follows an interesting account of Lamprecht's aim to make history a pure science. We are led, however, to acknowledge a clear distinction between the natural and the cultural sciences, such as history, art, etc. The former take the viewpoint of law, the latter that of value, and we cannot include the one within the other, for either might then turn round and claim the other. We must agree to recognize them both as on the same level.

The author then discusses the relation of the particular to the universal, and the process by which we arrive at the universal he calls inner abstraction or ideation, borrowing this last term from Husserl. This process of ideation leads us to the general or "ideat." The 'ideat' is conceived as a logical structure, *i. e.*, a ladder up to the last 'ideat'. The 'ideat' and its variously developed steps is the reality of the thought found in science. The ultimate 'ideat' is the logical end of all the sciences, only from it can order pervade the whole. There can, however, be no ultimate 'ideat,' for each 'ideat' necessarily demands a higher 'ideat,' and we thus arrive at the metaphysical paradox that there is an ultimate 'ideat,' but that it never can and never will exist.

Up to this point the author is more or less scientific in his mode of treatment, but from now on to the end of the book, unfortunately or fortunately according to the taste of the reader, he becomes decidedly metaphysical. The scientific investigator himself cannot know the relation of the particular result to the total result. We must presuppose a Something which supplies this relation to the whole. This Something is what works in the subconscious and creates the 'ideat.' The ultimate whole of which everything is merely a part, and therewith the ultimate Aufgabe of science, is God.

The place of chance, error and evil in such a system is then referred to. They all come under the concept of the possible, *i. e.*, the possibility of being

replaced by other things. They are not ideas contradicting the all-embracing order, but they arise from it. They exist because of our defective insight into the absolute uniformity of the whole. The problem of the ego is also taken up, and the pure subjective 'I' that never can become a 'me,' is found to be a part of the living spontaneously active God. And finally the author sums up in a sentence full of the haze of metaphysics; "science is the incarnation of the process formed by the meekness of man, which has sprung from the ὡς ἐρώμενον of God as logos." And further, the "latente Einstellung" of the scientist discloses itself as the love for God.

It is interesting to the psychologist to find the experimental results of Külpe, Watt, Ach, Messer and others of that school made use of in this metaphysical treatise, although it is doubtful whether the psychologist would agree to the wider interpretation given to them here. The "determinierende Tendenz" of Ach, the "Aufgabe" of Watt, and the "latente Einstellung" of Koffka are used as equivalent to the unconscious 'ideat' which guides the scientist in all his work, which makes him refer his particulars to the all-embracing Whole, called by our author, God.

RUDOLF PINTNER.

OHIO STATE UNIVERSITY.

Versuch einer neuen Logik oder *Theorie des Denkens.* Nebst angehängten Briefen des Philaletes an Aenesidemus. Von SALOMON MAIMON. Besorgt von B. C. ENGEL. Berlin, Reuther & Reichard, 1912.—Pp. XXXVIII, 445.

The *Kantgesellschaft* founded by Professor Vaihinger has proved a very vigorous organization. Among its recent projects is that of providing a series of new impressions of philosophical works that have become rare. In particular, the highly important period immediately following Kant's own publications is to receive systematic attention. Already reprints have been issued of Schulze's *Aenesidemus*, Liebmann's *Kant und die Epigonen*, and Maimon's *Versuch einer neuen Logik.* Two more volumes, by Tetens and Scholz, were in the press when the Maimon volume was issued.

In estimating the assistance which this brings to students of philosophy one must appreciate the light which is thrown upon the Kantian movement and its problems by the minor discussion of that period. For instance, the analyses of the Kantian doctrine of things-in-themselves, as given by Reinhold, and the criticisms of the same by Schulze and Maimon, not only proved determining for subsequent development, but also greatly aid us in understanding and judging Kantianism.

Maimon, in particular, was a critic of exceptional power and insight. The present volume contains the systematic presentation of his own views, in their culminating form, in his *Versuch einer neuen Logik.* These views, however, are developed with constant reference to the teachings of Kant. Even more interest, perhaps, attaches to the *Briefe des Philaletes an Aenesidemus*, which occupy 125 pages of the volume. These furnish brief and well-ordered criticisms of important positions. The first letter relates Maimon to Schulze; the second tests the basis of Reinhold's doctrine, to which also the fourth and fifth

are given; the third reckons with Hume, the sixth and seventh with Kant. These letters give within a brief compass a most instructive insight into the critical arguments and the resulting conclusions of Maimon. It is clear that the volume as a whole was well worthy of being reprinted.

E. L. HINMAN.

UNIVERSITY OF NEBRASKA.

Schelling. Par ÉMILE BRÉHIER. Paris, Alcan, 1912.—pp. 314.

This volume is one of the *Grande Philosophes* series, under the general editorship of Professor Piat. The series has been of high quality throughout; and Professor Bréhier's earlier contribution to it, the volume on *Chrysippus*, was crowned by the *Académie des sciences morales et politiques*. The present work is a systematic and thoroughgoing analysis of the entire body of Schelling's philosophical writings. Such a task is of surpassing difficulty, by reason of the manifold changes of viewpoint and the want of fundamental system in Schelling's writings. M. Bréhier, however, takes up each publication in chronological succession and analyzes it in detail, not only with much patience, but also with great clearness and insight. He discusses the external and internal influences that were operating in relation to each important doctrine, and shows the connection of each discussion with the larger development of Schelling. The result is that even French skill in exposition hardly suffices to give dominant unity to a book which follows so closely the ins and outs of Schellingian speculation; and yet, the reader is always able to appreciate the wood as well as the trees, to a far greater degree than in the writings of Schelling himself. It is true, of course, that an adequate understanding of the German philosopher could not be obtained at second hand, by reading this critical exposition; but if the more important works of Schelling were to be read in connection with this book, Professor Bréhier will have added enormously to the comprehensibility and significance of the entire study.

While the detailed analyses give an abiding value to the book, more interest for our present purpose turns upon the author's estimate of Schelling's work as a whole. The rapid transformations of Schelling's thought, and the demonstrable fact that these transformations were governed by the external surroundings of his life, give rise to the problem whether his development really expressed any inward and self-consistent law or motive; "for in spite of the assertion of Schelling, everything changes at bottom, the problems as well as the solutions." It is true that such writers as Kuno Fischer, Hartmann, and Metzger, have held that the want of continuity is only apparent, and have found, each in his own way, a point of reference from which the different stages can be seen as having a harmonious basis. M. Bréhier also finds a similar point of reference, but of a different type, since it emphasizes an affiliation with the line of thought which culminates in Bergson. *Things are of such a nature that the rhythm of their development can be taken up by the rhythm of our intuition.* With this as the key thought, all Schelling's variation may be explained. It is true that with Schelling everything took a speculative turn rather than a practical one, so that even intuition must be judged after the

analogy of Plotinus. Action is always in the service of an idea; but intuition is beyond the idea. Even when, in later life, Schelling emphasized the will and developed the doctrines which Hartmann magnifies as irrationalism, it was not the will-to-live, as with Schopenhauer, but the will-to-consciousness, to-have-ideas. Will with Schelling, then, was simply the power of the understanding itself. And yet, the author holds that Schelling was not an idealist: not temperamentally, for he believed not at all in the efficacy of the idea as such, of spiritual forces apart from nature; and not as a method, for while German idealism is a synthesis of conflicting opposites, Schelling denies the existence of the conflict itself. "In truth the great interest of Schelling, the fundamental value of his system, is not to cause spiritual forces to predominate in reality, as with idealism, but to cause to penetrate through everything in nature and history an intuition, which, far from remaining a stranger to things, as a spectator is to the objects he contemplates, follows rather the inward rhythm of their life, moves with them, penetrates them to the bottom." For the performance of the tasks which this program entailed, however, Schelling lacked the taste for psychology and the acquaintance with it which have fostered the work of M. Bergson.

E. L. HINMAN.

UNIVERSITY OF NEBRASKA.

La Mennais, L'homme et l'écrivain. Pages choisies. Par T. DUINE. Librairie Emmanuel Vitte, Paris et Lyon, 1912.—in 8°, pp. 348.

This book prepared by the abbé Duine is evidentally destined to claim as a catholic a brilliant author censured by the pope at the time he wrote, and who, out of his own free will, withdrew from the Apostolic Church. Catholicism does not want to lose the benefit of such reputations; time effaces many enmities; quarrels may be explained as misunderstandings. The able *Introduction* (of 60 pages) to the Extracts, mentions very briefly the two dangerous spots in La Mennais' career, namely his ordination as a priest, (27), and especially the great crisis brought about by the revolutionary paper *L'Avenir* which was censured by the Church, induced La Mennais to go to Rome, but brought about his condemnation by the Pope, and finally the open break with Rome (42). Such a man as L. M., the author suggests, could be a great catholic writer (as Chateaubriand, Lamartine, or Hugo) but ought not to have been induced to join the clergy: thus the blame of the break is taken away from the Church and laid at the door of one individual, the bishop of Vannes, while L. M. himself is not guilty either, and thus a real son of the Church. At the same time the condemnation of L. M. by the Pope is justified.

The idea of publishing *Extracts* has been much in favor of recent years, and for such authors as L. M. there is no reason for criticizing it. He wrote much, and he is not enough of a commanding figure to claim our time to read all. After all this book shows that posterity judged him fairly well in not classing him among the very first-class writers. He is an inspirer of lofty thoughts rather than a master of systematic philosophical thought; some of his beautiful prose (from the *Essai sur l'indifférence* and from the *Paroles d'un Croyant*) will

always have their place in French anthologies (*e. g.*, p. 245; 250 of this volume). It would possibly be unjust to say that L. M. was not able to write strictly philosophical works, but whether it was personal preference or the result of circumstances, it is a fact that he never had the necessary quietude for real speculative meditation. We would say that he is perhaps even more a case for the psychologist than for the philosopher. He is a *breton* like Renan, and his career is much like that of the great skeptic. Very mystic and childlike, (as everyone is in that region) but obstinate in their love of truth, both finally left the Church; but while Renan left religion at the same time as the Church, L. M. wanted to keep his religion and even his Catholicism: which can be explained by the fact that Renan belongs to the age of objective science, of naturalism and realism in literatures, of triumphant positivism in philosophy; while L. M. was living during the time of the French Revolution, saw the reign of terror in catholic Brittany, witnessed the persecution of the clergy, remembered the dramatic celebrations of the mass by priests who were daily risking their life for what was to them the sacred truth; this could not but impress the child's mind endowed with much celtic imagination, and even the grown up man could not satisfy himself that beliefs inspiring such devotion were entirely devoid of good foundation.

The extracts from his philosophic writings which are given—the others need not be noted here—are enough to show very conclusively that L. M.'s philosophy was, as that of all romanticists of that period, of a purely pragmatic character. They all worked on the principle that life would be too sad if the hopes of Christian religion were not true. L. M. tried to translate this into philosophical truth: Rationalism he traces back to Cartesianism, and Descartes' rationalism cannot lead to any solid truth, for it is all subjectivism. Descartes starts from the theory that whatever seems evident is true, and the frailty of this theory L. M. points out; among other places he does it in a very witty dialog quoted pp. 93–97; we hear an insane man who, two hundred years after Descartes' death, is absolutely convinced that he is Descartes; it is *evident* to him; and the Cartesian who discusses with him must admit that there is no (Cartesian) way of convincing him that he is wrong.[1]

Now while pure rationalism or Cartesianism leads to subjectivism or to a philosophical zero, it certainly leads us to the need of some principles above reason itself. L. M. points out two: *Tradition* and *Authority*. These do not really discard reason, but they replace by a *raison générale*, the cartesian *raison individuelle*. Let us quote Duine: "la *raison individuelle* . . . est portée aux écarts et à l'anarchie . . . *la raison générale* de l'humanité, . . . est conservatrice des principes primordiaux; en sorte que à la place du *sens privé* des sceptiques, des philosophes, des hérétiques [protestants] se dresse une notion *d'autorité* à laquelle on est obligé de se conformer; en un mot le raisonnement personnel n'a de valeur qu'autant qu'il obeit au consentement universel des peuples, qui forme la véritable raison humaine. . ." (p. 31). Then, L. M. wants to prove that the *Church* tradition is the real *human* tradition, and therefore "authority."

[1] Protestantism is refuted in about the same manner. See pp. 79–81.

As pointed out above this is entirely pragmatic: We must believe in Church dogmas because they are the most useful to us. Chateaubriand had expressed it in one sentence: "La religion est trop belle et trop utile pour n'être pas vraie." The whole *Essai sur l'Indifférence* and *Esquisse d'une philosophie* consists in search for knowledge; but not *any* knowledge; for such only as can satisfy our human desires and aspirations (pp. 97–8). The same is true of L. M.'s theory of liberty. Only if man is free can he change the world from bad to good: *true* philosophy must be philosophy of action, because otherwise the world could not be regenerated (p. 100).

These few notes will show that the book is really a valuable collection of extracts, as it will provide the reader with the fundamental theories of L. M., and these are found in the latter's own words.

ALBERT SCHINZ.

SMITH COLLEGE.

Grundlagen einer organischen Weltanschauung. Von M. KREWER. Berlin, 1912.—pp. 73.

This is an attempt at a constructive philosophy by combining organic process and the mathematical infinite. The ultimate terms of reality are matter and function. Their correlates in representation are space and time. There is no empty space, and for time there is no *elementary* concept. For a representative concept, time depends on space, and for its reality upon process.

Mathematics is empirical. Axioms are derived intuitively from identities. Concepts, however, arise from analogous phenomena. The understanding erects as marks of conceptual unity certain adequate and necessary conditions (definitions), to be designated as causality or finality. But definition is not complete unless reduced to process.

Thought is a natural process like every other. The individual brain is a part of the homogeneous brain-mass of humanity. The possibility of collective thought depends on the infinitesimal interactivity of collective and subjective thinking. The individual sensations and perceptions and the individual brain processes marked off by them constitute the *subject.* As subject, man recognizes himself as a part of humanity with which he is bound up by infinitesimal "ties." These ties unite in the brain into a "knot" which is called *the soul.* The latter is synonymous with consciousness, which is the faculty of the brain to be cognizant of the infinite and of itself as a part of the infinite, or God. Organic brain processes and representations accumulate and dispose of a mental stock just as the organism gathers materials for assimilation, propagation, and growth; and just as in the vital process there is a certain "dynamic tendency" compacted in "seed," so, per analogy, the thought process possesses an immanent dynamic tendency. This is the power of the conception of causes, as the adequate and necessary conditions of concepts. The primal source of this dynamic tendency is the organic idea of the universe, or deity, which is incorporated in the cosmic structure, and the tiniest part of which is the human soul.

The infinitesimal cohesiveness of the organic universe is secured by means

of "the process of the limit," best illustrated by the author's squaring of the circle. A circle and a square placed side by side appear identical if far enough removed from the eye. Now this identity can be preserved as the eye approaches the two gradually, provided that at every step, the number of sides of the square is increased, and this *ad finitum*. Just as the mathematical incommensurable is thus resolved into the commensurable, so is, per analogy, the organic process, as, for example, the discrepancy between sense and the intelligible world. To carry out this "axiom," there is required the principle of the points. The "mathematical point" is the infinitesimal of space; the "ethereal point" or *perpetuum mobile* is 'the other' invested with motion or process; the "material point" is the mathematical invested with the infinitely smallest particle of matter, or the atom. Two spatial points infinitesimally contiguous, if ethereal, are by impact or pressure in the relation of cause and effect. This sort of causation may be identified with that above, if the thought process is thoroughly organic and to be related back to matter and function as the sole ultimates. Conceptually, all external phenomena are infinitesimally cohesive, and the same causal nexus extends (infinitesimally) to the intra-organic subject.

The final four Chapters are devoted to an impassioned and metaphorically lucid exposition, with cumulative citations, of the earlier chapters of the Old Testament, to show that this organic speculation coincides with the creation accounts and the Mosaic religion. On the contrary, the writer betrays no sense of evolution, although so urgent in pressing organic process or the biological principle as fundamental. There is no evidence of purpose. Will is nothing more than another term for these congruent dynamic tendencies; as, for example, the crude expression illustrates, that will—the will to know—fertilizes the concepts and generates ideas. Of course the earnest claim of process is wholly abortive, for to open a *Weltanschauung* with static concepts of the spatial type and mere identification forecloses from the start the possibility of growth. This philosophy runs parallel with our New Realism, except that it is rather of the Meinong type: instead of "entity" and "relation," it follows concept and identification. The effort suffers from a lack of acquaintance with scientific psychology and biology, a deficiency compensated for by a plunge into mystical and vitalistic absolutism.

CHARLES A. MOHR.

INDIANA UNIVERSITY.

Der Aufbau von Kants Kritik der reinen Vernunft und das Problem der Zeit. Von FRITZ HEINEMANN. Giessen, verlag von Alfred Töpelmann (vormals J. Ricker), 1913.—pp. viii, 212.

The work before us is, as its title indicates, a study of the *Critique of Pure Reason* with special reference to the problem of time. It is divided into four general divisions. The first is devoted to the problem of time "auf der Stufe der Modalität," and covers the first twenty pages of the book. Under the next general problem, "Die Zeit auf der Stufe der transcendentalen Deduktion," (pp. 21–68), the significance of the transcendental deduction of the

categories is discussed in some detail. "Die Zeit auf der Stufe des Schematismus und der Grundsätze" is the heading of the third division of the work (pp. 69–152). Here are discussed: the place of the schematism in the *Critique;* the principles of the pure understanding, extensive magnitude, intensive magnitude, the analogies of experience, substance, causality, reciprocity. The last pages of the work are devoted to a consideration of time and the transcendental Ideas, "Die Zeit in der Sphäre des Ideenproblems" (pp. 153–212).

This work constitutes the second part of the seventh volume of the *Philosophische Arbeiten,* edited by Hermann Cohen and Paul Natorp. The study is a painstaking one, and deserves consideration by the student of Kant's philosophy.

G. W. CUNNINGHAM.

MIDDLEBURY COLLEGE.

Wahrheit und Wirklichkeit: Untersuchungen zum realistischen Wahrheitsproblem. Von DR. ALOYS MÜLLER. Bonn, A. Marcus und E. Weber, 1913.—pp. 64.

The avowed purpose of this monograph is to set forth an independent form of realism. Although the author uses elements from several well known forms of realism he does not wish to have his theory confused with any particular form. In the preface he tells us that some of the ideas advanced have already been published in *Archiv. f. syst. Philos.,* XVI Bd., S. 380 ff., and that the central idea was announced in the second part of his book, *Das Problem des absoluten Raumes und seine Beziehung zum allgemeinen Raumproblem* (Die Wissenschaft. Samml. naturw. und mathem. Monographien, 39. H., Braunschweig, 1911). The latter work was reviewed in the PHILOSOPHICAL REVIEW, Volume XXI, p. 475. The kind of realism which the author proposes is said to lie between idealism and extreme realism. To indicate this eclectic character of his theory he designates it *Idealrealismus.* From the epistemological point of view he holds that there are two sorts of ultimates—the psychic and the non-psychic—which unite to form a single reality. The phenomenal world and all its elements are the synthetic union of subjective and objective factors. The monograph is divided into four sections as follows: I, *Wahrheitsbegriff und Wahrheitskriterium;* II, *Wirklichkeitstreue und Wahrheit;* III, *Die Konformität der Wahrheit;* IV, *Zur Werttheorie der Wahrheit.* The main sections are followed by a concise summary and two appended discussions entitled, *Über die Möglichkeit verschiedenartiger Wahrheitssysteme,* and *Über den Realitätscharakter der logischen Gesetze.*

H. G. TOWNSEND.

CENTRAL COLLEGE.

The following books also have been received:—

The Philosophy of Giambattista Vico. By BENEDETTO CROCE. Translated by R. G. Collingwood. New York, The Macmillan Co., 1913.—pp. viii, 317. $2.60.

Nature and Cognition of Space and Time. By JOHNSTON ESTEP WALTER. West Newton, Pa., Johnston and Penney.—pp. 186. $1.35 pd.

Common Sense. By CHARLES E. HOOPER. London, Watts and Co., 1913.—pp. 172, 2/6 net.

Nietzsche. By PAUL CARUS. Chicago, The Open Court Publishing Co., 1914.—pp. 150. $1.25 net.

The Cabala. By BERNHARD PICK. Chicago, The Open Court Publishing Co., 1913.—pp. 109. 75 cents net.

Jesus in The Talmud. By BERNHARD PICK. Chicago, The Open Court Publishing Co., 1913.—pp. 100. 75 cents net.

Die Probleme der Sprachpsychologie. Von O. DITTRICH. Leipzig, Quelle & Meyer, 1913.—pp. 148. M. 3.20 geh.; M. 3.80 geb.

Zur Sammlung der Geister. Von RUDOLF EUCKEN. Leipzig, Quelle und Meyer, 1913.—pp. viii, 151. M. 3.60 geb.

Religion und Wirklichkeit. Von F. K. SCHUMANN. Leipzig, Quelle und Meyer, 1913.—pp. 152. M. 4.80 geh.

Sören Kierkegaard und die Philosophie der Innerlichkeit. Von THEODOR HAECKER. München, J. F. Schreiber, 1913.—pp. 69.

Der pragmatismus von James und Schiller. Von WERNER BLOCH. Leipzig, Barth, 1913.—pp. viii, 107. M. 3.

Der Gegenwartswert der geschichtlichen Erforschung der mittelalterlichen Philosophie. Von MARTIN GRABMANN. Wien, B. Herder, 1913.—pp. vi, 94. 45 cents net.

Bewegungslehre. Von VOLKMANN. Berlin, Hans Dohrn G. M. b. H.

Les Maladies Sociales. Par PAUL GAULTIER. Paris, Hachette & Cie., 1913.—pp. vi, 268. Fr. 3.50.

Les Inconnus de la Biologie déterministe. Par A. DE GRAMONT LESPARRE. Paris, Alcan, 1914.—pp. 293. Fr. 8.50.

L'Intelligence Sympathethique. Par GUDMUNDUR FINNBOGASON, Traduit par André Courmont. Paris, Alcan, 1913.—pp. 244.

La Métaphysique et sa Méthode. Par Félix Cellarier. Paris, Alcan, 1914.—pp. vii, 787. Fr. 10.

Esprits Logiques et Esprite Faux. Par Fr. Paulhan, Paris, Alcan, 1914.—pp. viii, 388. Fr. 7.50.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; 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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Riviste 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.* = *Zeitschrift für Psychologie und Physiologie der Sinnesrogane, I. Abtl.: Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

The Fitness of the Environment. JAMES Y. SIMPSON. Harvard Theological Review, VII, 1, pp. 72–87.

This article is an argument, based upon the fitness of the physical environment, for a teleological interpretation of evolution. The author cites Professor L. J. Henderson's recent volume "The Fitness of the Environment," for evidence of the suitableness of the principal chemical constituents of the earth's surface and atmosphere to meet the requirements of organic life. He endorses Professor Henderson's assertion that "logically, in some obscure manner cosmic and biological evolution are one," while he criticizes his assumption that the underlying cause of this unity, although now not at all explainable mechanistically, will ultimately become so explainable. For though mechanistic hypotheses are perhaps justifiable and even necessary within the restricted domain of a particular science, they are totally inadequate for a world view. In this connection Professor Hobhouse's recent "Development and Purpose" is cited for support. The author concludes that we are inevitably led to a spiritual interpretation of nature based upon environmental fitness, "and upon the gradual awakening and uprising of consciousness till it becomes not merely conscious of its life as a unity, but of the conditions under which it has come into being, and, controlling these, moves as the ultimate Reason," and as such, "shows forth more and more of itself in human personalities and society." The argument is logical and cogent, and deserves to be read.

WILLIAM K. WRIGHT.

Im Sachen des psychischen Monismus. G. HEYMANS. Z. f. Psych., 63, 4 u. 5, pp. 241–285; 64, 1 u. 2., pp. 1–33.

This whole article is devoted to a reply to McDougall's attack on all forms of parallelism in "Body and Mind, a History and a Defence of Animism." The main argument consists in showing that while most of McDougall's

polemic is valid as applied to epiphenomenalism, with which he seems to identify all forms of parallelism, still in the case of one form of the latter, psychical monism, the criticisms do not hold. Psychic monism holds that only the psychical exists and that the physical is merely the way in which the former is perceived. Physiological processes in the brain and the brain itself are merely the way our sense organs take cognizance of the true reality, conscious processes. McDougall's claim that dualism is within the province of empirical science while psychic monism is metaphysical in its allegiance is untenable, as the latter does not start from an assertion concerning the ultimate nature of reality from which it attempts to deduce a complete and detailed *Welterkenntniss*. It starts from the facts of anatomy, physiology, and psychophysics, and attempts to set up an hypothesis to explain them. For the consequently posited *Weltbewusstsein*, it claims only so much of the character of ultimate reality as is empirically justifiable, and admits many places where only gradually accumulated knowledge can fill in the missing details in its theory. Again, the positing of a reality which is ultimately psychical does not commit the monist to the doctrine that the whole enduring structure of the world is dissipated into a stream of conscious psychic phenomena, but merely transfers the legality and uniformity to the mental side. As for McDougall's assertion that parallelism implies "that every psychical event has its physical correlate or manifestation," and "that every thought or volition manifests itself under the form of physical processes subject to mechanical laws," the fact is that these are questions for further research to decide. At least the assertion that there is a psychical reality behind every physical event does not necessitate the conclusion that there is a physical correlate for every psychosis. Nor is monism inseparably committed to an associationalistic and atomistic view of mind. Granting that meaning is more than or different from a synthesis of sensations, it does not follow that it may not itself have a physiological correlate as well as sensation. It should be noted in this connection that psychical monism does not make the mechanics of the brain molecules the really guiding force in the play of logical and meaningful connections, and is therefore not open to the charge of absurdity that may be brought against the mechanistic conception. All of these answers follow from the very essence of the monistic doctrine and are not merely additional hypotheses, brought in as aids. McDougall's whole polemic against parallelism applies only to epiphenomenalism. For monism the question is not whether atoms in motion can explain the behavior of a man directed towards the realization of remote ends and abstract ideals, but can this mental life be mediated through the sense organs as a manifold of causally related natural events. Here the causal relation of motive and decision, of logical premises and affirmed conclusions, is mirrored as cortical sequence and pseudo-causality. As to whether the legality of the brain is the same as that of the rest of nature, that is again a matter for empirical results to decide. These premises do not necessitate psychic atomism either, at least not in the sense that individual psychical contents are isolable and capable of independent existence. For

they are all integral parts of the mental reality. Moreover, the doctrine of the sub-conscious, the unconscious, call it what you will, relieves psychic monism of the insuperable difficulty of physiological processes in the brain unaccompanied by psychic processes. The difficulty arising from the lack of a common sensorium can be met by the hypothesis that integrated sensational complexes can be correlated with brain processes which are merely simultaneous, not connected in space.

Are the results of psychic research, which are continually gaining more of a scientific status, explicable only on the basis of animism, as McDougall claims, or can one type of parallelism, at least, namely psychical monism, not only find a place for these 'phenomena' in its system but even furnish guides to further experimentation? The matter involves a consideration of the relation between the individual and the world consciousness. The individual is inclined to look upon his consciousness as a little closed system and to attribute the same character to the minds of others. We find, however, that the closed character of consciousness is not so great as has been thought. In the first place, we have come to realize that outside of the focal processes of any one moment, there is a great sphere of peripheral processes, which is subject to the same laws and is in constant relation to the former. Nor is the matter one of intensity; rather the unnoticed contents of consciousness are in a more loose type of connection with the focal processes. We have, then, the conception that in every individual consciousness at any one moment only a small part of a much more comprehensive mental content is present, and that there is a constant interchange between the two spheres. There is a struggle between the different ideas to attain the focal point, and the chances of anyone's so doing are functions of its intensity, feeling tone, and connections with other ideas. Consequently, the focus is generally made up of sensations and perceptions, but on occasion memory or imaginary complexes may succeed in asserting themselves. A similar type of relation may be posited as existing between the individual and the world consciousness. Parallelism requires that, just as we find brain processes to be related to the other phenomena of nature, albeit not very intimately as compared to their own mutual relationships, we should posit a relationship between the individual and the universal mind which is much less close than that between the specific ideas of the former. As a result of this weakness of the bond, it is easily understood that we are ordinarily not aware of the existing tie. The universal mind is much less unified than the individual, and consequently the interchange of contents within it is much less frequent.—We must conceive the individual as a temporarily isolated part of the universal consciousness. As in the isolated mind, the strongly toned ideas occupy the focus, so in the universal, systems of strongly toned experiences, those of the body, arise, maintain themselves, and then give place to others. And as the victorious idea in a human consciousness drags in its associates and shuts out all processes foreign to it, so does the individual isolate himself from his fellows. No experiences are ever entirely lost, and it seems probable therefore that no life is completely annihilated but

continues to exist as a unity. All of these are, of course, highly hypothetical statements, but they seem to receive certain confirmations from the facts of psychic research. Under this head we understand principally the phenomena of telepathy and manifestations of the dead. Dualism, it is true, leads logically to the conception of immortality, but gives no basis for believing in the communication of minds, both those of the living and those of the dead, at least not from the standpoint of its essential doctrine. And of the special conditions under which these take place it has nothing to say. With psychic monism it is different. In attacking the problem from this point of view, we must set out from the conception of the universal mind. The question would be whether this consciousness is to be conceived of as so constituted as to lead to the occurrence of the phenomena of psychic research under the conditions which have been empirically established. As has been shown, the relation between the individual and the world mind is the same as that between the focal and peripheral parts of the isolated consciousness. Carrying this further, in as far as both types of consciousness are governed by the same laws, there will be associative connections between my mind and that of the universe, only they will be very weak. As a consequence, only rarely will parts of the content of the wider consciousness 'occur' to the individual. Still the possibility of direct intercommunication between the living and between the living and the dead is admitted under favorable circumstances. The rarity of the occurrence is due to the weakness of the interconnections and the strong counteraction of the content of the specific mind. And as peripheral ideas succeed in forcing themselves into the focus especially frequently when strong sense impressions are largely in abeyance and when the content of the focus is relatively disintegrated, so we find the phenomena of telepathy and mediumship to be intimately connected with the hysterical condition, which manifests the two characteristics named above. As the appearance of an idea in the focus of the individual consciousness is favored by associative threads, direct or indirect, between it and the existing processes of maximal clearness, so we find a departed mind manifests itself most readily through the mediumship of one who has been intimately connected with it during life or under conditions that tend to set up such a connection temporarily. The phenomena of automatic movement, also, bear a close similarity to the automatic writing or speaking of the medium in communicating the thoughts of the departed. Again, the lack of clearness of most communications received corresponds to the low degree of intensity of ideas that has fallen away to the remoter borders of the subconscious, even when they succeed in asserting themselves in consciousness for a moment.

R. B. OWEN.

The Relation of Mystic Experience to Philosophy. SIR FREDERICK POLLOCK. Hibbert Journal, XII, 1, pp. 35–46.

The philosophical bearing of mysticism has been misunderstood by superficial modern criticism. Mysticism is not necessarily religious in any ordinary sense of the term. The matter of mystical processes is often per-

fectly verifiable by the ordinary tests of other experiences. Mystical experiences are not different from others in not being open to all, and in being incommunicable. It is begging the question to use 'mystic' and 'visionary' as disparaging terms because visions and ecstacies are fallible in many cases. Mystical experiences are common to many faiths and confirm no single dogmatic system. Is there any form of philosophy with which mysticism is plainly incompatible? Not materialism, for the Stoics and some early Christian mystics were materialists. Mystics could hold any form of dualism or idealism. Belief in mysticism does not necessarily commit one to monism, nor to a scant respect for the reality of time and the worth of individual personality, as is instanced by the case of William James. "Broadly speaking, a Platonist is more likely to become a mystic than an Aristotelian, and some forms of later metaphysical speculation appear to have special affinities for mysticism; but we have no warrant for saying that there is any such thing as an exclusive or definite mystical philosophy."

WILLIAM K. WRIGHT.

Christian Ethics and the Ideal of Nationality. G. F. BARBOUR. Int. J. E., XXIV, 1, pp. 1–23.

Is the principle of nationality, at present being tested against the wider universalistic ideal, to be abrogated by the principle of universal brotherhood, or does it still remain an essential part thereof? How does the religious view of the solidarity of mankind affect nationalism? The task of Christianity is now the same as in its beginning, that of the reconciliation of various mingling races. The proclamation of universalism has always been the central message of Christianity; but the principle of nationality need not be regarded as counter to the Christian spirit. Jesus himself reverenced the traditions of his own people; and the universalism of the gospels does not exclude the truth that different peoples may have special aptitudes for working out various aspects of the Christian ideal. The present time also shows tendencies making for the breaking down of national exclusiveness: modern industry has become international and a kinship of interest has grown up between the same classes in different countries. But this substitutes for patriotism the less noble exclusiveness of class interests. If the unifying force of patriotism fails to reconcile class and class, the issue will be economic war. Civilization tends, by extinguishing racial differences, to reduce life to a common type; this uniformity may prove as fatal to fruitful intercourse as was the old isolation. The breaking down of racial restraints involves moral peril, for vices are more easily adopted than virtues. Patriotic feeling may still be used to concentrate the humanitarian impulse which, without such direction, is apt to dissipate its energy. An international ideal may be substituted for a cosmopolitan, involving not the negation of nationalism but the inclusion of what is best in nationality in a wider synthesis. The nations should lay aside, not their identity but only their intolerance, and by proving faithful to their several destinies should forward the wider destiny of the world.

NANN CLARK BARR.

The Main Principles of Sensory Integration. HENRY J. WATT. The Br. J. Ps., pp. 239–260.

The formulation of principles is highly necessary in Psychology, because it is the sphere in which the effects of the interaction of all the main forms of being —physical, physiological, biological, psychical, and social—are made patent. For a better understanding of Psychology, principles must be formulated which are drawn from its own sources, and which are, therefore, able to do justice to its own particular difficulties. Unless the realm of sensory experience can be properly systematized, there can be no science of Psychology. The sensations must be formed into a sort of "periodic table" which will serve as a framework and basis for the theories regarding the qualities of sensation, and the attributes of sensation must be reduced to a type. For the scientific psychologist such a systematization will lead to a systematization of integrative modes of sensory experience. There are three main principles of sensory integration. (1) The mode which results from the integration of an attribute must bear an immediate introspective resemblance to it. Inductively stated, it means that among the attributes of the simpler experiences, upon which a mode of experience is psychically dependent, there must be one to which it bears a much greater introspective resemblance than to any other. (2) The results of the integration of the same generic attribute in the different senses must be introspectively and functionally similar. The introspective and functional nature of an integrated mode of experience is essentially independent of the attributive or other accompaniments of its integrative basis. By means of this principle we are able to establish general rules for the relation of the generic modes to the generic attributes or features of the experiences from which they are integrated. If a mode of experience fails to occur where we expect it, then the basic variant experiences are absent, and for this the natural limitations of physical and physiological processes must be ultimately responsible. (3) Every typical mode of experience must to some extent at least arise spontaneously and automatically and independently of such processes as reason, thought, determining purpose, and the like, unless these processes themselves are the modes in question. Every mode of experience worthy of that name must make some new addition to experience. There can be no universal guide to the development of the mind; it can develop only when the conditions for that development have been given. These developments come about through some new mode of experience.

HENRY BENTSON.

L'Inutilité du Vitalisme. F. BOSC. *Rev. Ph.*, XXXVIII, 10, pp. 358–382.

Barthez was the first to set the problem of the nature of life in terms of modern biology, by believing in the profound unity of life and in the experimental investigation of vital phenomena. The significance of this opening towards the experimental study of life was misunderstood, and vital force was made a metaphysical entity exempt from physical-chemical laws. The experiments of the mechanists lessened the difference between vital and physical

facts; functions were reduced to chemical reactions. Genetically explained, life originated in fragments of plastic substance floating on the water. Haeckel identifies structure with life; the animal is a machine mechanically produced by the structure of the germ. In terms of energy, vital activity is reduced to material activity. The living and the dead worlds are one, for all goes back to the movement of the atom. Neo-Vitalism rejects conscious finalism, but accepts an unconscious finalism by which is produced an endless, spontaneous, evolving creation. Life is the creative force organizing dead matter which alone is susceptible to physical-chemical laws. Only the inert is penetrable by analysis; the living being escapes, for we cannot know what is the vital force independent of matter which directs the plan and is different from physical-chemical action. The problem of the nature of life has been ill put. What Neo-Vitalism calls life is only the life which is apparent; real life, the cause of apparent life, is hidden, below perception. Two questions arise: (1) Is the distinction between living and non-living indeed legitimate? and (2) Is the non-living alone penetrable by analysis? If even inert bodies possess hidden life, all are equally subject to physical-chemical laws and penetrable by analysis. Structure is the support, not the cause, of vital activity. The notion of mass should be replaced by that of force which is cause of the structure and evolution of living bodies. This deep life which we have come to recognize in living bodies exists in the non-living also. Matter is never inert, but gives constant emissions of forces; and these forces which envelop us are reducible to one universal force, which by condensation gives birth to matter, while matter by decomposition lets loose the forces collected in complex living bodies. Apparent life is only a mode of universal life. The difficulty of observing the hidden life gave rise to the distinction between living and dead which is the cardinal error of Neo-Vitalism. Life is common to all beings, and all phenomena are reducible to physical–chemical laws. Modern biology does not take the view either of materialistic monism or Neo-Vitalism, but draws near spiritual monism and so makes Neo-Vitalism useless.

NANN CLARK BARR.

Le monde comme volonté de représentation. JULES DE GAULTIER. Rev. Ph., XXXVIII, 11, pp. 479–510.

In current systems of philosophy, except that of Spinoza, reality, as it appears to us in consciousness, is not a finished reality, but an imperfect sketch which has to be transformed into a perfect reality. What characterizes, in fact, such moral conceptions of the world, is an end implied of transforming reality as it is into reality as it ought to be. Now the moral conception involves a contradiction, in that in finding perfection of existence in an ideal justice into which we are to transform an existence given in injustice, it consecrates as a law of existence an essential injustice. Renouncing the justification of existence in the light of our moral aspirations in a progress of evil toward good, the new metaphysic seeks for it a new principle of justification. The fact of religious feeling, moreover, must find a place in the conception of

reality, as well as that of morality. By religion is meant a conception which attributes to existence a logical significance for the forms of our intelligence and an interpretation satisfactory to the forms of our feeling life. The justifying principle fulfilling all these conditions must also be found in experience itself; it must be a phenomenon. The phenomenon sought is found in our aesthetic experience. In the place of a moral end, which has been found self-contradictory, must be substituted, according to the new hypothesis, an aesthetic intention. The world becomes a spectacle or drama, where we at once act a part and behold a performance, deriving satisfaction from both acting and beholding. Morality being recognized as an illusion, phenomena are freed from their moral condemnation, while the illusion itself is justified by the interest and feeling of worth it lends to the spectacle of existence. Our various experiences, which in their practical aspect are either joys or pains, are for our aesthetic appreciation, both as performer and as beholder, all only joys. This aesthetic attitude corresponds closely to Spinoza's "amor intellectualis Dei," and may be defined as love of existence for its own sake. The conditions of aesthetic creation and of aesthetic appreciation are erected into a metaphysic of the spectacular, according to which, for progress toward an ulterior moral end, is substituted as an end the contemplation of existence by itself, which end is continuously realized by existence inventing its own drama under the forms of illusion and desire. The view of the world as "will *to* representation" differs from that as "will *and* representation" by seeing as a positive good the process which Schopenhauer, blinded by pessimistic prepossessions, regarded as only lessened evil. Reality is not denied, but only the moral aspect of reality, morality being reduced to a model, though an indispensable one, according to which aesthetic reality is to be executed. When one sees himself as an actor whose function it is to play well his rôle and enjoy it, the problem of evil, which is the stumbling block of every moral progress theory of justification, is solved by ceasing to be posed. Moral aspirations which in the old philosophy implied an end to be realized, become the means of realization of an end at each instant achieved. All activities of amelioration, social reform, medical science, etc., will of course go on as before; they are an indispensable part of the spectacle, the execution and contemplation of which are coördinate phases of the same fact, both carried on under the form of the moral illusion. Feeling must have been experienced either to be portrayed or for its portrayal to be appreciated. If the value of voluntary illusion be questioned, myriads of examples from daily life establish it abundantly. No other view will account for the fact that in spite of pessimistic recriminations, life remains so dear to the individual.

F. H. KNIGHT.

Is Realistic Epistemological Monism Inadmissible? DOUGLAS C. MACINTOSH. J. of Ph., Psy., and Sci. Meth., X, 26, pp. 701–710.

Realistic epistemological monism maintains that the object perceived is existentially or numerically identical with the real object at the moment of

perception, although the real object may have qualities that are not perceived at that moment, and that this same object may exist when unperceived, although not necessarily with all the qualities which it possesses when perceived. It maintains with the neo-realist that what we perceive is existentially identical with the independent reality, and with the epistemological dualist it maintains that the object has when perceived certain qualities—notably the sense-qualities—which it does not possess when not perceived. Immediate knowledge of independent reality in perception is possible, because in sensation there is a creative activity of spirit. Upon occasion of certain stimulations, sense-qualities are creatively produced by the psychic subject, and in some cases with more or less accuracy located in or upon the very object in the environment from which the stimulation proceeded. Consciousness in sensation and elsewhere is a productive activity of a unique sort. The psychic subject produces all the various sense elements which it is able to discover in the surrounding world of physical objects. Psychology thus becomes the science which studies the psychical subject as functioning. The whole process of sensing is the inherited result of what was first achieved in the lower animal from which the human race has descended. Sense-qualities are not produced by objects and lodged in the mind; they are creatively produced by the psychic subject in things or in the individual's own body. Thus secondary qualities are created and thereby the primary qualities are revealed. The fact that where sense-qualities are located in external objects, some of the primary qualities are as directly present to the subject as are the secondary qualities themselves, makes possible an escape from absolute agnosticism. This psychical activity becomes apperception when some ideas of qualities function instead of the actual presentation of those qualities. This apperceptive activity or the instinctive tendency thereto may be transmitted from generation to generation. Only when there appears a new kind of psychical activity in the history of the race, is there an absolute a priori activity. Finally, with this view of epistemology, knowledge relation, when it is a relation of present consciousness, is internal so far as the subject is concerned, and external so far as the object is concerned. Whether relations are to be regarded as internal or external to the terms related, depends upon the purpose with reference to which the question is raised.

HENRY BENTSON.

Sören Kierkegaard. H. HÖFFDING. Rev. de Mét., XXI, 6, pp. 709–732.

Sören Kierkegaard, the most truly Danish writer in the history of Denmark, was born in Jutland in 1813. His contributions to Danish literature are notable for the beauty of their descriptions of nature, for their wealth of sentiment, and for their stern philosophy. Between 1843 and 1846 he published a whole poetic, religious, and philosophical literature. His philosophy is one of personality, partly derived from the Socratic principle, which appeared also in the writings of Kant and Fichte. Kierkegaard contrasted his principle of personality with that of scientific research, which he thought involved an

absorption in the study of objective reality. He venerated authority, categories, fundamental concepts; but he believed that these fundamental concepts were founded on experience, and that, existence being always a becoming, it is impossible to form a complete system. The ethico-religious problem occupied him above all else. In his philosophy of life he recognizes various types; as, the aesthetic, the *ironiste*, the moral, and the humorous types. The last type, the religious, is endowed with more moral energy than the others. In the Christian type the highest development possible is reached. Kierkegaard's attack upon the Church was the greatest spiritual struggle in Danish history. It was directed by his desire for sincerity, for intellectual and moral probity; and its result was of two-fold importance. First, the religious problem was seen to be separate from that of metaphysics and was recognized as psychological. Second, religion was shown to demand whole-hearted sacrifice and unswerving loyalty. Kierkegaard's message to humanity was a declaration of the importance of sincerity.

ALMA R. THORNE.

Logisch-metaphysische Gedanken über Freiheit und Notwendigkeit. FELIX GOLDNER. Ar. f. sys. Ph., XIX, 3, pp. 275–289.

Instead of logical contradictions ordinary thinking makes use of terms which, while not mutually exclusive in an absolute sense, are easy to deal with because of their positive content. So we have antithetical pairs like being and becoming, subject and predicate, freedom and necessity. The confusions and difficulties of the problem of the will seem to arise from a failure to recognize the fact that the opposition of freedom and necessity is only approximate. Neither Determinism nor Idealism is capable of logical explication without reducing to its opposite. Determinism is inconceivable without some measure of freedom, but there is no salvation for the actual time world in the freedom postulated for the absolute ego. What meaning can be given to freedom except as it is a modification of necessity? On the meaning given by Idealism, freedom approaches too near necessity to serve even as an approximate contradictory in further discussion. If we turn to the purely formal conception of not-necessity, we can see that it too must denote a kind of necessity, however distinct from absolute causal law, if it is to have the universality of truth. But necessity itself, in the sense in which it makes all determination credible and truth possible, coincides with the not-necessity we have set up as the contradictory to absolute causality. "How there can be a condition freer than freedom can describe, and just for this reason of the purest all-embracing necessity, we cannot fathom. That it exists we know through self-conscious intuition, which cannot be shaken by any analysis."

ANITA FREDERICA DE LAGUNA.

La conscience transcendentale. C. RADULESCU-MOTRU. Rev. de Mét., XXI, 6, pp. 752–786.

Two exaggerations of Kantianism occur respectively in pan-psychologism and in pan-logism. Both are due to the failure of Kant's synthesis of English

associationism and Cartesian rationalism. The insufficiency of the critical philosophy lies in the artificial relation of these currents of thought to each other. The data of the senses are held together by the transcendental unity of apperception, but the nature of that unity itself is not sufficiently examined. In this transcendental ego Kant finds spontaneity and an identity of self-consciousness. Spontaneity implies that apperception is an organic function. Self-identity implies an abstract, numerical unity. Thus, the unity of apperception is defined by two moments which contradict each other: the unity of individual consciousness, and the ideal unity of consciousness in general. The first is founded on the supposed identity of the psychological self; the second, on the postulates of abstract logic. In explaining the organization of impressions from the senses, recourse is had to the relation between the unity of apperception and the other kinds of unities that prepare the way, as, for instance, the function of imagination; and apperception is thus found inherent in the real, individual consciousness. But in explaining the objective nature of *a priorism*, i. e. the fact that rules deduced from the unity of apperception are the only rules possible for human experience, recourse is had to a mathematical postulate. Kant cements together these two different conceptions, as best he may, with the aid of his discovery of the creative consciousness of reality, but the new perspective does not impose a fusion of the dual elements. In spite of the fact that Kant never lost sight of the distinction between the psychological and the logical, his critique is open to criticism. His transcendental idealism leaves the contradiction still existent between psychology and formal logic. His problem should have been: How does the *individual* consciousness arrive at syntheses having the character of universal and necessary truth? But Kant asked, instead, How are universal and necessary truths possible in *Bewusstsein überhaupt*? Kant did not clearly define this consciousness-in-general. If he had added to its two functions, spontaneity and self-identity, a third one, harmony, the definition would have applied to the notion of genius, current in Kant's time. But Kant himself did not make this identification of genius and consciousness-in-general. That was the task of the Romantic school. He did not answer at all the questions, In what does consciousness in general consist? and, How can the individual human consciousness establish eternal truths? Following the two unreconciled elements in Kantianism, the pragmatists and the uncompromising rationalists arrive at very different results from those in Kant's transcendental idealism. Pragmatists, basing everything on the psychological fact of the individual consciousness, are unable to explain mathematical truths; they cannot pass from the subjective to the universal and necessary. But the rationalists cannot explain the evolution of science; because, basing everything on the *apriori* nature of an absolute and universal reason, their scientific truth—always identical with itself—should be perfect from the beginning. Of the tentative answers to this problem, the most notable are the philosophies that depend upon a biological solution. Müller and Lange attempt to explain the *apriorism* of Kant as due to the morphology and the physiology of nervous matter. Avenarius

followed the same modification of Kantianism in his *Kritik der reinem Erfahrung*, and Mach, in his *Erkenntnis und Irrtum* is following Avenarius. Both of these philosophers remain within the limits of scientific biology; but others, like Nietzsche and Bergson, have constructed a metaphysic of life. The way for this was opened by Schopenhauer, who made the organization of knowledge depend upon the organization of life, and that, in turn, upon the will. Nietzsche makes this more concrete by basing knowledge upon the *Wille zur Macht*, which ultimately aims toward the creation of the superman. Bergson's *élan vital* is the next modification. Apriorism has been replaced by vitalism. Following out the suggestion of another development, the romanticists based their philosophies on the nature of genius, and made a universal panacea of that creative form of consciousness which Kant confined to the domain of aesthetics and art. Hegel, going beyond romanticism, sought the objectivity of the individual consciousness in the evolution of the historical consciousness of humanity. He was the first to suggest the sociological solution, which now finds a champion in the French sociologist, M. Durkheim, according to whom the categories of intelligence are found in social consciousness. But none of these tentative solutions have done away with the fundamental discord between the two elements which Kant left unreconciled.

ALMA R. THORNE.

Die Begründung einer idealen Weltanschauung. KARL SKOPEK. Ar. f. sys. Ph., XIX, 3, pp. 289–319.

The two great divisions of metaphysics are Materialism and Idealism. According to the first, matter is the ultimate ground of the world, according to the second, spirit. Idealism has two forms, Pantheism and Theism. Materialism, like Idealism, is monistic; it has three types, as it considers mind as physical, as a result of the physical, or as its concomitant. Each division has its exponents in both ancient and modern philosophy. The true metaphysic must satisfy the needs of the heart and must accord with the results of natural science. Pantheism fails to satisfy the heart since it destroys the integrity of the individual; in excluding teleology it denies scientific observation, for the thoughtful student of nature finds that it displays a harmoniously ordered system of ends. Materialism fails in each of its three forms. Mind and matter cannot be equated, because the matter given in the content of consciousness cannot be the cause of the consciousness which the experience of it presupposes. Nor can spirit be the result of matter; the unity of consciousness cannot be derived from the interplay of brain parts. The materialism which calls mind the concomitant of matter gives up the claim of matter to be the ground principle of the universe. The question as to whether the palm of victory belongs to Idealism or Materialism depends on the nature of the material of which the world is composed. According to Materialism this material is only a collection of atoms; in this case the problem of the rise of life, of the organic from the inorganic, would be insoluble. Modern natural science has come to conceive the world stuff as a metaphysical principle,

force. According to this world view, matter consists of dynamical units, monads, as Bruno and Leibniz named them. Pantheism referred the origin of the world to blind force, materialism to the chance grouping of atoms. But no complete satisfaction can be attained unless the world is seen as the work of a highest intelligence, of a personal God. All finite monads owe their being to the creative force of God. This theory has been called Panentheism. Modern science goes to confirm this dynamic metaphysics. The electron theory echoes the Monadology, and the last word of biology teaches with Leibniz that life never begins or ends absolutely—it presents itself as a continously flowing river of which the larger and smaller waves are the individuals. So science, life, philosophy yields the victory to Idealism against Materialism on account of the transformation of the concept of matter into force.

Anita Frederica de Laguna.

Ein Beweis für die Unrichtigkeit der Kausalhypothese. Ernst Barthel. Ar. f. sys. Ph., XIX, 3, pp. 355–366.

Natural science has adopted the concept of causality as its ground principle; it might be more truly described as its ground hypothesis and ground error. The ideal of science is to find a cause for every particular phenomenon. Unfortunately its causal hypotheses need constant revision. The root of its difficulties may lie in the falseness of the causal principle, not in any lack of accuracy in the investigations which seek to establish it in any given instance. The authority of the causal principle has never seriously been called in question. Even Hume is unable to conceive of science without the category of causality and hence arises his scepticism of knowledge. When we come to examine the causal analysis of any phenomenon, we find that the cause presented is never a satisfactory one. But even were it possible for science to actually establish its pet hypothesis, in the very moment of that triumph would come the consciousness of the futility of the victory. The fact that A follows B is worth nothing as an explanation of A or B. Real knowledge demands a deduction of phenomena from the essence of things in the way that the properties of a triangle are deduced from its essence. Nature is a system organized according to the laws of thought; only a recognition of this fact can yield any satisfactory explanation of particular events. Only "practical thinking," glorying in its naïvete, considers a philosophy of becoming more valuable than a philosophy of being, a fact as more significant than its essence, meaningless computations more scientific than metaphysical mathematics, and the causal hypothesis more exact than the finest thinking of philosophical enlightenment.

Anita Frederica de Laguna.

La Connaissance Affective. H. D. Noble. Rev. des Sc. Ph. et Théol., VII, 4, pp. 637–663.

From one point of view all knowledge is affective; the most disinterested act is motivated by feeling and penetrates the affective network about it.

From another point of view, we may distinguish the representative or speculative consciousness from the affective consciousness proper. The former has a non-affective object, and though affective elements excite and envelop it, they change neither its mode of operation nor its objective content. The latter, in addition to being aroused by feeling, has an affective object; namely, the affective state itself. Moreover, in this case, feeling may distort our perception, memory, or reasoning, alter their content, and use the whole representative faculty for its own ends. Viewing the landscape from a car window or solving a mathematical problem illustrates the speculative consciousness. Any feeling, emotion, or desire is an example of the affective consciousness. The 'psychological mechanism' of the affective consciousness, i. e., the way in which feeling influences knowledge, is as follows. Feeling exercises a positive and negative selection in the field of knowledge, creating a fixity of attention on all objects that concern it, and repressing attention to anything else. Attention is reenforced by a unification of consciousness and a convergence of all the faculties of consciousness on the affective object, resulting in a sharpening of the powers of discernment and an enhancement of the value of the representation. But all this is common to both the speculative and affective consciousness. The radical difference between the two is found in their points of departure. In speculative knowledge the mind is passive, neutral, indifferent. In affective knowledge the mind is active; sees what it wants to see, remembers what it can use, argues to its own interest. Conquest replaces discovery; the known, not the unknown is sought. Centripetal supersedes centrifugal attention. Passive selection gives way to active. The basis of selection is no longer objective criteria of the good and true. Selection, attention, application, valuation are all at the service of the affective state. Intuitive virtue, mystic insight, and such proverbs as, "to know one must love," suggest that the content of consciousness is enriched by feeling, but feeling cannot create a new or wider field of vision. The affective state does not enable us to know more or farther than we otherwise could; it does however enable us to know better. For example, the lover knows the object loved better than anyone else because love incites his cognitive faculties to greater efficiency, because he alone enjoys and appreciates the lovable qualities of the object, and because to him alone is revealed that inexpressible somewhat beyond and beneath all visible qualities. Therefore excessive pragmatism errs in supposing feeling perceives or discerns; it merely heightens our ordinary powers of apprehension.

RAYMOND P. HAWES.

Remarques sur la théorie logique du jugement. EDMOND GOBLOT. Rev. Ph., XXXVIII, 11, pp. 511–525.

Logicians have often been the dupes of language, confounding the structure of thought with that of the machinery of its expression. Formal logic must be entirely worked over to eliminate the resulting errors, which appear in all its divisions. Thus in the case of modality, examination shows that there is

properly no such thing as modality of judgment, though there are judgments of modality. Confusions arise in the other subjects treated by logic as well, but come out most strikingly perhaps in the case of quality of judgments. A judgment is an assertion, positive or negative, in regard to an object, and in both cases implies the rejection of a contradictory assertion. The judgment in regard to a judgment is not a valid division, the two judgments really forming but one. The indefinite judgment of Kant must also be rejected, as it is excluded by a correct interpretation of the law of contradiction. The various forms which propositions take in regard to quality depend on the accidents of language, and have no significance for the structure of the judgment itself. Forms of speech are often indirect and distorted, as in the proposition: *this language is not free from impertinence*, which is of the form, *A* is not non-(non-*B*). Many cases difficult of analysis arise in connection with the use of attributives of negative form and positive meaning and vice versa. Instances are the word *simple*, which is really a negative, signifying indivisible; *immortality*, again, is the negation of death, which is the negation of life, and *infinity* offers a still more complex case. But the true judgment, when finally found beneath its verbal trappings, is the affirmation or the negation of an attribute, which is always positive.

F. H. KNIGHT.

L'ambiguité de la notion d'idée chez Spinoza. F. BLANCHE. Rev. des Sc. Ph. et Theol., VII, 4, pp. 663–680.

Everything has a two-fold reality. As a mode of its respective attribute, constituting a reality external to representation, it has a formal essence. The new nature each thing acquires as a representation or content of consciousness is called its objective essence. Every idea then has two inseparable aspects: its own formal essence (what it is in itself) and the objective essence of its content (what it represents). The first meets the requirement of an irreduceable distinction between the idea and the reality represented; the second that of a perfect correspondence between them. The Scholastics carefully preserved the distinction between idea as entity or form and idea as representation or concept; but Spinoza, influenced by Cartesianism, continually confuses the two, thereby plunging his entire system into obscurity. At times, especially in his earlier writings, the mind is said to be influenced by its object and cannot be explained without reference to its object. Spinoza is then thinking of idea as the objective essence of its content. When he affirms the absolute independence and self-sufficiency of the idea, he has in mind its formal essence. This is in harmony with the parallelism and irreducibility of Thought and Extension. Later Spinoza argues that because idea is a mode of Thought, even its representative aspect cannot depend on or be explained by Extension. Consciousness must find a complete explanation in terms of Thought. The mere fact that an idea is a mode of Thought is an adequate explanation of its essence, origin, and production. The mind is the cause of the whole idea and is entirely active, autonomous, and unaffected by the object.

Even the truth of an idea depends in no way on its object. The correspondence of idea and object is only an "extrinsic denomination" due to Parallelism. Truth must denote some internal characteristic of the idea: its self sufficiency, its conformability to the idea-type, its capacity of embracing the whole objective essence of its object,—in short, its clearness and distinctness. A single trace of the influence of objects on ideas remain: the order of the succession of the ideas of the imagination and memory follows that of things in nature, while all other ideas the mind arranges according to the laws of intelligence. Since the latter operation presupposes memory and imagination, the domination of extension over Thought becomes a brute fact irreconcilable with Spinoza's system. Also, when Spinoza argues from Parallelism to the absolute independence of idea as representation or concept, he passes surreptitiously from the order of essence and existence to the order of knowledge, from the formal essence of the idea to the objective essence of its object, from idea proper to idea in its representative function. The consistency and coherence of his system suffers accordingly.

RAYMOND P. HAWES.

The Hegelian Concept of the State and Modern Individualism. H. S. SHELTON. Int. J. E., XXIV, 1, pp. 23–37.

The main influence of English Hegelian thought tends to socialism in that it favors the tendency to do more and more by the direct action of the state; it assumes that when a system is so established that resistance is useless and criticism futile, the loss of liberty entailed is not really felt. Green emphasizes the obligation of the individual toward the state as it expresses the "general will;" but this latter concept is only vaguely defined, either by Green or Bosanquet. It is not the sum of the particular wills, and organization and subordination add nothing new to its nature. With the putting of this concept in its place, it will be seen that the theoretic foundations for such ideas as that the individual has no rights against the State become doubtful. The work of Bosanquet tends to undermine the democratic ideas by criticizing adversely theories which assert the paramount importance of individual liberty. For he holds that self-regarding and other-regarding actions cannot be separated and that the self and law are not alien. He confuses social control with state control, and as society has greater control over the individual than has the State, this confusion is favorable to socialism. His conclusion is, that no true ideal lies in the direction of minimizing the individuality or restricting the power of the State. The mystical concept of general will is used as a support for the increase in the power of the State however constituted. If this concept is rejected, the Spencerian idea of freedom is the only one that remains.

NANN CLARK BARR.

Gegenstandstheoretische Betrachtungen über Wahrnehmung und ihr Verhältnis zu anderen Gegenständen der Psychologie. OLIVÉR V. HAZAY. Z. f. Psych., 67, 3u.4, pp. 214–260.

The aim of the article is to make clear certain fundamental concepts in

psychology from the side of "Gegenstandstheorie." Of these concepts, perception especially is considered, but other concepts of an elementary nature are also examined and compared with the perception. In the perception, the act of perceiving must be clearly distinguished from the psychical content of perception, and this, in turn, from the object to which it refers. The contrast between the last two may be partially brought out by saying that the same content may 'intend' (meinen) various objects, and the same object can be comprehended through various contents. The object is expressed in words in various ways. Generally, it completes a sentence: I see "that the bird flies away." To this typical "that"—construction, Meinong gives the name "Objektiv," and this "Objektiv" is the object of the perception. An "Objekt" can never function as the object of a perception. According to the definition of Ameseder, an "Objektiv" not only *has* existence, but *is* existence, while an "Objekt" merely *has* existence but never *is* existence. The sensation, in contrast to the perception, has an "objekt" for its object. That which distinguishes the perception from the functions of judgment and assumption ("Annahme") is, that the perception can comprehend its "Objektiv" only affirmatively, and that this "Objektiv," can be only positive existence or qualified existence ("Sosein");—whereas, in the judgment only one predetermined course is open—either affirmation or negation of the "Objektiv" — and, in the assumption ("Annahme"), either affirmation or negation may be freely chosen. Judgments and assumptions ("Annahme") have all conceivable "Objektive" as material; perceptions, however, are limited to those "Objektive," in which present and positive existence or qualified existence ("Sosein") of existing "Objekte" are expressed. The "Soseinsobjektive," which can be immediately perceived are the qualitative and formal properties of an "Objekt." The special mark of thinking and ideating, is the "placing" ("setzen") of the objects—an expression which means that the idea and the judgment comprehend in their peculiar world "Objekte," which do not exist, or from whose existence they abstract. The idea refers to an "Objekt" with respect to its existence or qualified existence ("Sosein"). The objects of our thinking, on the other hand, are but "Objective" and "Objekte." Finally, as regards striving ("Strebungen"), desire and feeling, the two former have "Objektive" for objects, whereas, the latter has "Objekte."

MABEL E. GOUDGE.

NOTES.

The Report of the joint committee of the American Psychological and Philosophical Associations, appointed to investigate the circumstances that led to the resignation of Dr. John M. Mecklin from the chair of Philosophy and Psychology in Lafayette College, is published in the Journal of Philosophy for January 29, 1914, and in a somewhat abbreviated form in Science of January 30, 1914.

Professor Henri Bergson has been appointed the next Gifford Lecturer, and will next summer deliver the first part of the course on "The Problem of Personality."

Dr. E. B. Crooks, formerly of Northwestern University, has been appointed professor of Philosophy and Education at Randolph-Macon Woman's College, Lynchburg, Va.

We give below a list of the articles in the current philosophical periodicals:

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHOD, X, 26: *Douglass C. Macintosh*, Is Realistic Epistemological Monism Inadmissable?; *Henry Rutgers Marshall*, Is Psychology Evaporating?; *Eliott Park Frost*, The Belief in Consciousness.

XI, 1: *M. T. McClure*, An Orientation to the Study of Perception; *George Clarke Fox*, The Case Method in Ethics and Its Critics.

XI, 2: *Harold Chapman Brown*, Value and Potentiality; *Isaac Aaronson*, Perception; *J. E. Turner*, Miss Calkins on Idealism and Realism.

XI, 3: *Harold Chapman Brown*, The Thirteenth Annual Meeting of the American Philosophical Association; The Case of Professor Mecklin: Report of the Committee of Inquiry of the American Philosophical Association, and the American Psychological Association.

THE PSYCHOLOGICAL BULLETIN, X, 12: *J. H. Leuba*, Sociology and Psychology.

MIND, 89; *F. C. S. Schiller*, Aristotle's Refutation of 'Aristotelian' Logic; *J. S. Mackenzie*, The Meaning of Reality; *H. H. Joachim*, Some Preliminary Considerations of Self-Identity; *L. P. Saunders*, A Criticism of Dr. Mackenzie's Philosophy of Order; Discussions: *A. W. Benn*, Aristotle's Theory of Tragic Emotion; *B. Bosanquet*, Idealism and the Reality of Time; *L. E. Hicks*, Is Inversion a Valid Inference; *B. Bosanquet*, The Analysis of Categorical Propositions.

THE AMERICAN JOURNAL OF THEOLOGY, XVIII, 1: *Charles Whitney Gilkey* The Function of the Church in Modern Society; *D. D. Luckenbill*, The Hittites; *Ernest D. Burton*, Spirit, Soul, and Flesh, II; *R. H. Strachan*, The Idea

of Pre-Existence in the Fourth Gospel; Critical Notes: *Frank C. Porter*, A Source-Book of Judaism in New Testament Times; *J. M. Powis Smith*, The Deuteronomic Tithe; *Rendel Harris*, St. Luke's Version of the Death of Judas; *Edgar J. Goodspeed*, The Freer Gospels.

THE HARVARD THEOLOGICAL REVIEW, VII, 1: *William R. Arnold*, Theology and Tradition; *D. C. Macintosh*, What is the Christian Religion?; *W. S. Archibald*, Religion in Some Contemporary Poets; *James Y. Simpson*, The Fitness of the Environment; *John E. LeBosquet*, The Modern Man's Religion.

THE INTERNATIONAL JOURNAL OF ETHICS, XXIV, 2: *G. C. Henderson*, Nature Selection and Rational Selection; *J. W. Scott*, Ethical Pessimism in Bergson; *S. Radhakrishnan*, The Ethics of the Vedanta; *R. D. O'Leary*, Swift and Whitman as Exponents of Human Nature; *Wilson D. Wallis*, The Problem of Personality.

THE HIBBERT JOURNAL, XII, 2: *F. C. S. Schiller*, Eugenics and Politics; *J. B. Baillie*, Self-Sacrifice; *Elizabeth Macadam*, The Universities and the Training of the Social Worker; *Miss M. D. Petre*, The Advantages and Disadvantages of Authority in Religion; *R. L. Orr*, The Scottish Church Question; *W. A. Curtis*, The Value of Confessions of Faith; *Hubert Handley*, Ought There to Be a Broad Church Disruption?; *A. W. F. Blunt*, The Failure of the Church of England; *J. Arthur Hill*, Changing Religion; *Henry C. Corrance*, Bergson's Philosophy and the Idea of God; *T. Rhondda Williams*, Syndicalism in France and Its Relation to the Philosophy of Bergson; *Charles W. Cobb*, Certainty in Mathematics and in Theology; *J. E. Symes*, The Johannine Apocalypse.

THE MONIST, XXIV, 1: *Bertrand Russell*, On the Nature of Acquaintance; *F. G. Henke*, Wang Yang Ming, a Chinese Idealist; *Richard Garbe*, Christian Elements in Later Krishnaism and in Other Hinduistic Sects; *A. H. Godbey*, Ceremonial Spitting; *Leonard Thompson Troland*, The Chemical Origine, and Regulation of Life; Criticisms and Discussion: *Philip E. B. Jourdain*, The Economy of Thought; *Karin Costelloe*, An Answer to Mr. Bertrand Russell on the Philosophy of Bergson; *P. G. Agnew*, "Multiplication of Pears and Pence."

AMERICAN JOURNAL OF PSYCHOLOGY, XXV, 1: *Edmund C. Sanford*, Psychic Research in the Animal Field: Der Kluge Hans and the Elberfeld Horses; *E. O. Finkenbinder*, The Remembrance of Problems and of their Solutions: a Study in Logical Memory; *A. T. Poffenberger, Jr.*, The Effects of Strychnine on Mental and Motor Efficiency; *Samuel W. Fernberger*, A Simplification of the Practice of the Method of Constant Stimuli.

THE PSYCHOLOGICAL REVIEW, XX, 6: *Percy W. Cobb and L. R. Geissler*, The Effect on Foveal Vision of Bright Surroundings; *Anna Wyczoikowska*, Theoretical and Experimental Studies in the Mechanism of Speech; *Herbert Sidney Langfeld*, Voluntary Movement Under Positive and Negative Conditions; *Truman Lee Kelley*, The Association Experiment: Individual Differences and Correlations; *Robert MacDougall*, The 'Colored Words' of Art; *Laura Lettie Smith*, Whipple's Range of Information Tests.

XXI, 1: *H. L. Hollingworth*, Individual Differences Before, During, and After Practice; *D. L. Lyon and Henry L. Eno*, A Time Experiment in Psychophysics; *Percy W. Cobb*, The Effect on Foveal Vision of Bright Surroundings, II: *A. M. Feleky*, The Expression of the Emotions; *H. M. Johnson*, A Slit Mechanism for Selecting Three Measurable Monochromatic Bands; *B. H. Bode*, Psychology as a Science of Behavior; *Knight Dunlap*, The Self and the Ego; *J. W. Baird*, The Phenomena of Indirect Color Vision.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, LXVII, 3 u. 4; *G. E. Müller*, Neue Versuche mit Rückle; *Olivér v. Hazay*, Gegenstandstheoretische Betrachtungen über Wahrnehmung und ihr Verhältnis zu anderen Gegenständen der Psychologie; *Stefan Baley*, Über den Zusammenhang einer grösseren Zahl wenig verschiedener Töne; *Julius Pikler*, Empfindung und Vergleich, I; *Erwin Ackerknecht*, Über Umfang und Wert des Begriffs "Gestaltqualität."

KANT-STUDIEN, XVIII, 4: *Oscar Ewald*, Die deutsche Philosophie im Jahre 1912; *Hans Pichler*, Zur Entwickelung des Rationalismus von Descartes bis Kant; *Willi Schink*, Kant und die stoische Ethik; *E. von Aster*, Der VIII. und XV. Band der Berliner Kant-Ausgabe.

VIERTELJAHRSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE, XXXVII, 4: *Ernst Sauerbeck*, Vom Wesen der Wissenschaft, inbesondere der drei Wirklichkeitswissenschaften, der "Naturwissenschaft," der "Psychologie" und der "Geschichte."

REVUE DE PHILOSOPHIE, XIV, 1: *P. Duhem*, Le temps et le mouvement selon les scolastiques, II; *Louis de Contenson*, L'innéisme Kantien des fondements mathématiques; *A. Véronnet*, Les hypothèses cosmogoniques; *G. Jeanjean*, Revue critiquee de pédagogie.

REVUE PHILOSOPHIQUE, XXVIII, 12: *P. Sollier*, Mémoire affective et cénesthésie; *J. Pérès*, La logique du rêve; *A. Rey*, Les fondements objectifs de la notion d' électron.

XXXIX, 1: *E. de Roberty*, Les nouveaux courants d'idées dans la sociologie contemporaine; *Revault d'Allonnes*, L'attention indirect; *A. Chide*, La science et le surnaturel; *Lalo*, Le premier Congrès d'Esthétique; Notes et Documents: *F. Picavet*, Commémoration de Roger Bacon.

REVUE DE MÉTAPHYSIQUE ET DE MORALE; XXI, 6: *H. Höffding*, Sören Kierkegaard; *E. Goblot*, La relation des jugements; *C. Radulescu-Motru*, La conscience transcendantale, critique de la philosophie Kantienne; Etudes Critiques; *I. Talayrach*, La philosophie de l'histoire de Julius Bahnsen d'après des documents inédits; Questions Pratiques; *Th. Ruyssen*, La morale sexuelle; *A. Lalande*, L'individualisation de l'impôt.

REVUE NEO-SCOLASTIQUE DE PHILOSOPHIE, 80: *D. Nys*, Le temps a-t-il commencé et finira-t-il?; *J. Cochez*, L'esthétique de Plotin, II; *F. Palhoriès*, La

théorie de la connaissance dans la philosophie de Gioberti; *A. Pelzer*, Godefroid de Fontaines. Les manuscrits de ses Quolibets conservés à la Vaticane et dans quelques autres bibliothèques; Programme des cours de l'Institut supérieur de Philosophie; *M. de Wulf*, Le mouvement néo-scolastique.

RIVISTA DI FILOSOFIA, V. 5: *A. Faggi*, Del giudizio particolare; *F. Weiss*, Note critiche alla "Filosofia dello Spirito" di Benedetto Croce; *G. M. Ferrari*, L'umanesimo filosifico; *R. Resta*, Concetto d'una pedagogia; *A. Marchesini*, L'amicizia nella vita e nell'educazione; *M. B. Zanotto*, Saggio di una Filosofia dell'Individuazione.

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THE PHILOSOPHICAL REVIEW.

WHY THE MIND SEEMS TO BE, AND YET CANNOT BE, PRODUCED BY THE BRAIN.

IF an electric current is applied to the closed eyelids we have a sensation of colour, if to the ears, a sensation of sound, if to the tongue, or nose, a sensation of taste or smell. What is apparently one and the same stimulus applied to different sense organs gives rise in the brain to different sensations. It seems easy to explain this by what we know of the anatomy and physiology of the brain. When our sense organs are stimulated, the stimulus is conveyed by means of sensory nerves to the brain and there gives rise to sensation, the sense organs are sensitive to various kinds of stimuli, the stimulus to the eyes gives the sensation of sight, to the ears the sensation of sound and so on. It seems then it must be the brain which gives the special character of our sensations to consciousness, for we have only to send the brain a stimulus through the optic nerve to get sight, through the auditory nerve to get sound and so on, and this notwithstanding that the stimulus has in itself none of the things which we distinguish as sensible qualities. Since it is out of sensations that all knowledge is built up, for there is nothing in the understanding which was not first in the senses, it seems to follow that our mind, that is the power or faculty we have of perceiving, remembering and imagining, must be produced by the brain, that is, be an effect of some process or other that goes on in the brain.

But it is not only by experiments such as this that we make the discovery that there is a close and intimate relation between the

mind and the brain, a relation which makes the mind dependent on the brain. In ordinary discourse we use the words brain and mind as interchangeable terms, because it is quite evident that where there is lack of intelligence there is deficiency in the brain and where there is a high degree of intelligence there is a correspondingly high development of brain. The immense advance in recent times in our knowledge of the physiology of cerebral process serves more and more to emphasize the entire and absolute dependence of mind on brain, and particularly of the higher processes of mind on the development of the cells and fibres of the cerebral cortex. Physiologists tell us that there are the almost inconceivable number of something like 7000 million nerve cells in the brain of the newly born child and these, which neither increase nor decrease throughout life, undergo a development of interconnection by means of the branching fibres they send out in every direction. When through disease or malformation or any other cause this development is arrested we have mental deficiency or idiocy.

The brain is an organ of immense complexity and has a great deal more to do than only to turn stimuli into sensations. It is part of a complete nervous system and it is only a part of the brain that is concerned in mental process. A nervous system or something that closely corresponds to it seems to be a necessary acquirement of every living organism that moves freely, and its structure, however complex it may be in its higher development, is built up of a simple arrangement of cells and fibres that receive and transmit movement. Its function is to receive a stimulus and to transmit it to a centre where a responsive movement is prepared. The nervous system is therefore described as sensori-motor from the double function that it performs. There are two kinds of response to a stimulus—one immediate and automatic, the other conscious and willed. It is only those stimuli that are transmitted to the cerebral cortex, and only some of these, that give rise to consciousness; consciousness seems to occur just at the moment when the movement in the fibres reaches the cerebral cortex; some of these movements, not all, give rise to consciousness. If a movement gives rise to con-

sciousness it occurs when a stimulus reaches the cortex and before it passes from the brain to the muscles to issue in actions. There appears to be a power of inhibiting or delaying the response to the stimulus while consciousness lasts and consciousness seems to have the function of giving us a choice of the direction which the response shall take.

Moreover, if we sever the connecting fibres between the sense organs and the brain, all sensation and all thought ceases. This seems to indicate that in some way or another the movements that pass to the nerve cells of the cerebral cortex are there transformed into sensations, thoughts and ideas, into what we group together and think of as a different and separate kind of thing and call the mind. And it seems impossible to doubt that it is the brain that produces the mind and not the mind that produces the brain, because the brain is an organ that develops continually throughout life and performs a multitude of other functions besides that of turning the excitation of its cells and fibres into sensations and perceptions, a function that seems to be intermittent and only called into activity at definite times and in special circumstances.

Many people think that our nature is a combination of two realities, a soul and a body, and that the mind belongs to the soul, which is immaterial or spiritual, while the brain belongs to the body, which is material. If this should turn out to be true, or even if it should appear to be credible, it does not alter the fact we are considering. No one can produce for his own or for someone else's observation a soul that is independent of a body or a body (that is of course a living body,—a dead body is merely inert matter) that is independent of a soul. Therefore those who hold that there are two independent realities have to admit that everything happens just as if processes in the brain produced feelings and thoughts in the mind of the soul.

Why should they not? Why should not feelings and thoughts be manufactured in the brain just as any effect is produced when its necessary conditions are fulfilled? May it not be the function of this wonderfully complex organ to produce mind just as other less complex organs produce the secretions that are necessary to

the life of the whole? Is it only the subtlety and ethereal nature of the product that make it seem inconceivable that mind can arise from a material process? If so, is there more than a difference of degree between it and the marvellously effective substances secreted by the various ductless glands? The brain is not a gland but it is an organ of such complexity and perfection that it is impossible to conceive a limit to its power.

There are two reasons that seem to everyone who has studied the problem, unanswerable. One is that it is impossible to explain anything as an effect unless we can regard it as strictly commensurate with the cause, and mind is not commensurate with cerebral process. And the second is that the consciousness which arises in connection with cerebral process is not consciousness of cerebral process but of something which is altogether independent of cerebral process, something existing in a different space, it may be thousands or millions of miles away from the brain, and something existing at a different time, it may be ages before or even after the present moment at which the cerebral process takes place.

Let us examine each of these reasons carefully. And first the reason why the form of explanation we call cause and effect and which is the form of all ordinary and scientific explanation will not explain the production of the mind from the physiological processes in the brain. There is no need to discuss any of the philosophical problems involved in the idea of causality, the question is simply one of fact. Is the relation of the mind to the brain one of those relations that can be explained as cause and effect? When excessive light falls on the retina there follows immediately a contraction of the pupils and, if that is not sufficient relief, then a closing of the eyelids. We can analyze this fact into a series of events each mechanically determined by the preceding one. If we start with the light we say that it communicates to the retina a molecular motion which is transmitted by the optic nerve to the brain, from the brain by efferent fibres to the muscles controlling the iris and eyelid which, by contracting or relaxing as the case may be, cause the iris to close the aperture admitting light, and the eyelid to cover and protect the whole

organ. We can pursue our investigation further—in fact in either direction to any extent that we please. We can explain the mechanism of the muscles and the supply to them of their energy, the anatomy of the retina and of the nerve fibres and the nature of their function, or on the other side we may explain the excessive light as due to the solar rays and these as produced by the rapid movement of the molecules in the solar mass. We call all this explanation because we can translate every fact we deal with into a common term and state its exact equivalence (theoretically of course) in that common term. The common term is movement. If throughout the whole series there is anything that cannot be resolved into movement then that thing is not in the causal relation. Now suppose that while this event is happening I am conscious. I shall be aware of a painful sensation, aware of the light as a perception, aware of the sun as the object of perception, aware of the immense velocity of the movement of the molecules of its mass and the consequent propagation of waves of light as my conception of the nature of light, aware also of the response my muscles are making to the stimuli my sense organs are receiving as my effort or conation. This awareness forms a connected series but it is not, like the physiological process, a series of movements, and it does not intervene in that series, it does not form a link in the chain of transformations of movement that I call causes and effects. The two series are quite independent as series, and the physiological process I explain by the relation of cause and effect because I find in every state the exact equivalent measured in movement of the preceding state, but the psychical series I explain by association which does not include the idea of equivalence or of measurement. But the important point is this, that the whole of this awareness with all the association that constitutes it a connected series, comes into existence at one precise moment of the physiological process and at no other. This moment is when the stimulus from the sense organs reaches the cerebral cortex. Therefore it seems that the awareness must be produced at that moment by the process, and yet it is impossible that it can be, because it is not equivalent to the energy

received by the cortical cells at that moment, it does not change the form of that energy or intercept it or in any way affect the series, that is to say, not in any way that the physiologist can take into account. The physiological process is complete in itself and explained as a series of exactly equivalent causes and effects independently of the awareness that arises at one of its moments.

Let us now look at the second reason, which rests on the nature of what we may call the content of consciousness, meaning the reality of which we are aware in consciousness. Our body is a part of the universe and like the rest of the universe an external object to the mind. Awareness is occasioned by the various influences which affect the surface of our body. Every one of the things we are aware of, supposing of course that there are realities outside of us and that we are aware of them, is outside of the process that is going on in the brain. Even if we include this process as itself part of the universe we are aware of it not immediately in its functioning, but reflectively in explaining to ourselves the function of the brain as an object independent of our consciousness of it. Whatever therefore the nature is of the processes that are going on in the cells and fibres of the cerebral cortex, it is impossible that we should be aware of a real world outside of the brain and also that that awareness should be produced or manufactured in the brain. If we really could believe that our mind was produced in and by our brain, that the brain cells manufactured it or constructed it out of movements sent to it from the skin and sense organs, we could have no assurance that we had any knowledge of reality or that there was any reality to know. We might of course suppose, as some philosophers in former times supposed, that God performs a miracle every time we know anything, and that our only guarantee that there is any world independent of our knowledge, or that our knowledge is of a real world, is our faith in God that He does not deceive us. But considered simply in itself and according to the rules we apply to all our deductions and inferences, if the mind is simply a product of the brain it is then something potentially present in the brain or present in the

materials supplied to the brain before it is actually produced, and this something cannot be what is happening outside the brain or that did or will happen outside the brain. It is not the process going on in our brain that we are aware of, but the process going on outside our brain, and although influences reach our brain from outside and although the physiological processes are directly connected with the outside world by the sense organs, yet these influences are stimuli which cannot be conceived as translating anything, even images of things, into the brain as a material out of which the brain might be conceived to produce the mind.

These two reasons are as I have said unanswerable. The first may be summed up in saying that the chain of causes and effects in the physiological process of which the brain is the centre is complete without the intervention of the psychical process, while the psychical process of consciousness, though a connected series, is not a relation of effects to causes but of association of ideas which involves no conversion of energy. And the second may be summed up in saying that knowledge, if it is knowledge of what is outside the brain, cannot be manufactured inside the brain. It is admitted therefore practically by everyone that consciousness is not an effect of process in the cerebral cortex in the same way that the responsive movement of the muscles is such an effect. The brain directly connects the response of the body to the stimulus received but the consciousness that arises in the process is not part of the efficiency. Yet this consciousness is certainly not independent of the process, for if it is why does it arise at one moment and at one moment only of the process? So it has been suggested that it may be an effect of a different kind, an effect that does not absorb energy or give out energy, but still a direct effect of the cerebral process. It is said to be an epiphenomenon, and is compared to the shadow that accompanies a moving body which neither aids nor hinders it though invariably accompanying it, or to the phosphorescence left along the track of the lucifer match we have struck, a one sided effect that cannot in its turn become a cause.

This theory is widely held and is considered by most of those

who support the materialist, or what is now more generally called the mechanistic, view, to meet all the difficulties that are involved in the conception of the mind as an effect or product of processes in the body. We may grant at once that so far as the first difficulty we have noticed is concerned, the conception of the mind as an epiphenomenon of the brain is a possible one. It may be that there are after effects of brain processes which though the direct effect of physical movements and of the conversion of energy, are yet not themselves an absorption of energy and do not therefore become an actual calculable part of the causal chain. We could explain in this way why consciousness is not measureable in terms of physical movement, although a product of physical movement. Moreover, so far as consciousness is simple feeling, pleasure and pain, something without distinguishable content and purely an affection, the conception might suffice. But when we consider the real nature and content of consciousness,—the second of our difficulties—the conception becomes impossible to the point of absolute incredibility. Think what this phosphorescence must be and do! It springs up along the track of a wave or current passing through the centres and fibres of the cerebral cortex and when it springs up we are conscious—of what? Of the passing nerve current? No. Of the fact that it has passed? No. Of the stimuli that originated it on the surface of the body? No. Of the direction towards the muscles which are to be set in movement? No. We are not aware of any of these things that actually are occurring but of the world outside us, of the world outside the nerve current altogether, of other persons and of other things than the body and its processes, of things like stars infinitely distant in space, of recollections, of thoughts of things that may have happened at a time infinitely remote from the moment when the passing current, which occupies a limited portion of space and occurs at a definite moment of time, gives forth its luminous trail.

This is the rock on which all these theories that derive mind from body split. We wish to derive a reality that is unconfined in space and unlimited in time from a reality that is limited to a definite portion of space and to a moment of time. Suppose we

succeed, we are then in this extraordinary dilemma that the only actual fact is the brain process with its consequence, and therefore the reality we are aware of may be a pure illusion, for the fact cannot guarantee its independent existence, and yet at the same time our only knowledge that there is a brain process with this consequence is an inference from the reality we falsely suppose ourselves to know. The argument therefore is a vicious circle. How do we know that there is a world outside of our body of which the body is a part? Because a certain process has taken place in a certain portion of our brain. And how do we know that this process has taken place? Because we know that there is a world outside of our body of which the body is a part. Everyone has heard the story that used to be told in derision of the Hegelian philosophy, of the German philosopher who preparatory to writing an essay on 'The Camel' went into his study to evolve the animal out of his self-consciousness. The story used to end with the unnecessary information that he is there still. Not more impossibly absurd is the idea that our mind is a product, whether we call it epiphenomenon or whether we think of it as a substantial effect, of our brain.

There are other theories besides that of the epiphenomenon which have been proposed as an explanation of the necessary connection of mind and body, but they come to grief on the same rock. There is the very attractive theory of double aspects, very attractive because it offers a direct solution of the apparent dualism, according to which there is only one fact, but it assumes two aspects, a psychical aspect as consciousness, a physical aspect as movement or brain process, just as the movement we see from the shore as the ship tossing on the rolling billows is the same movement which in the ship's cabin is felt as conscious experience. Then there is the mind-stuff theory, according to which there is a substance of which every mind is composed which is as universal as material substance, a stuff of which every molecule, atom and electron has its share. I need not go into these theories in detail because it must be obvious that they will be confronted with the very same difficulty that we have been examining, the difficulty of the nature of mind

and consciousness, that it is awareness of reality not confined to, nor commensurate with, the physical process which accompanies it.

The difficulty is so great that most psychologists and philosophers seek a way of escape, and so they adopt a theory which seems to them to recognize the fact of necessary connection without committing them to any theory as to its nature. This is the well known hypothesis of psycho-physical parallelism. It is a very old theory that was formulated in the 17th century. Leibniz illustrated it by supposing that a clever artificer had designed two clocks whose movement and appearance might differ, but each of which kept perfect time; they would always synchronise and by reading one clock you might always know the exact condition of the other. So he supposed that God at the Creation had made the mind and the body as two clocks which always kept time and therefore seemed as though the state of one was simply dependent on the state of the other. Now it seems to me that everyone who adopts this hypothesis, whatever be the form he gives it, neglects two very important facts. The first is that the hypothesis goes far beyond anything that is justified by experience, it is much more than a mere admission of facts. Experience tells us that a physical process always accompanies a psychical process, but parallelism tells us that there is a one-one relation between the physical fact and the psychical fact. If it does not imply this, it is not parallelism but merely a fact which no one denies, that there is a constant relation between the psychical and the physical. And the second is this, that so far from its being a non-committal hypothesis it is the distinct adoption of a metaphysical theory.

The difficulties of every form of psycho-physical parallelism have been lately very generally recognized; they are admirably set forth in the new edition (1913) of Dr. Stout's Manual of Psychology, and there has in consequence been an attempt to restate the doctrine of interaction in a form that will not conflict with the scientific law of the conservation of energy. Interaction supposes that the mind actually supplies energy to the body and that psychical reality undergoes conversion into physical

reality. It is clear therefore that it is the first, rather than the second of the two difficulties we have stated, that is the real stumbling block to this theory. To overcome it the hypothesis has been suggested that there may be in every case of conscious action a conversion of energy that exactly compensates itself—a simultaneous conversion of psychical into physical energy and of physical into psychical energy, so that the amount of each remains always constant. If this is the last word of interactionism then it seems to me to offer us only a choice of evils. It is possible, in the sense that it avoids the actual absurdity of parallelism, but like parallelism it is a metaphysical theory that goes far beyond any known facts of experience and that throws no light whatever on the facts.

The fact which we have to recognize, and which there seems to be a natural disinclination in the human mind to recognize, is that mind and brain are absolutely incommensurable. They are two realities which meet—that is certain for we never have one without the other—but they meet like the circle and the tangent at one point only. What constitutes this difference and why is the incommensurability absolute? The brain is material and therefore spatial, it is a certain disposition of material elements. This disposition of elements changes but only externally by influences that affect the disposition, but not the elements themselves. It is a delicate organization easily thrown out of balance or destroyed, but what is essential to its existence is material organization. On the other hand, mind is not spatial but temporal, its essential nature is a duration which conserves the past in memory. Imagine that an instantaneous cut is made across the whole of extension. The brain is there but not the mind, for you are imagining extension without duration and mind has no extension. Imagine on the other hand a section through the whole of duration, the mind is there but not the brain, for matter only exists simultaneously in a present, you cannot imagine matter without extension. The mind is therefore essentially a time continuity and the brain essentially a space continuity. Restrict the mind to the actual condition of the brain at any given moment and there is no

mind. Cut off from immediate perception all memory and imagination and there is no perception. Theoretically all that there is to perceive in the present is there, but without memory and imagination it can have none of the content or meaning that mind gives to it. On the other hand, the brain can have neither memory nor imagination, for all that it is, it is at every moment. In this lies the true reason why we cannot think that brain produces mind, it would be imagining that space produces time. It would mean that a present activity produces its own past and future. Nor can we escape the absurdity by supposing that the brain does not create the memory but preserves past impressions and ideas in nerve cells or nerve tracks and sets them free or revives them in response to stimuli. It would be easy to show that the same contradiction we have been examining before follows us here, but it is enough to say that such a theory can adduce no facts in its support. There are, however, many facts which seem to contradict it. One of these facts is very remarkable, and of especial interest, because it forms the basis of the theory of memory expounded by Bergson in *Matter and Memory*. It is the discovery some years ago, confirmed by every case since observed, of the nature of the malady known as auditory aphasia, a malady in which the patient, while still retaining the sense of hearing, has lost the power of recognizing the meaning of words. He seems to have lost his memory, to have forgotten what words mean, without having lost the power of recognizing the things themselves. This malady is accompanied by a lesion of a particular region of the brain, one of the frontal convolutions well known and mapped out by anatomists. The discovery was the first, and also it remains the only successful, localization in the brain of a particular form of memory, that which we call recognition of words. It seemed at first to confirm the generally held opinion that there are special cells in the brain whose function is to store memories, and it was supposed therefore that the injury involved the destruction of a group of cells in which a particular kind of memories was stored, with the consequent result that the memories were destroyed, and that therefore according to the extent of the lesion was the amount

of irrecoverable loss of memory. Bergson was the first to show that the facts pointed to an entirely opposite conclusion, that the memory was still in existence and unimpaired, but that what was thrown out of gear by the injury was the mechanism by which memory inserted itself in action. It was not a psychical reality but a motor mechanism that was affected. This view is now adopted by many of the most prominent psycho-physiologists, but even those who do not accept it no longer quote aphasia as proving that psychical reality is produced by or stored up in material structures.

If we recognize this fact that in mind and brain we have two realities that are incommensurable by their very nature, but which function only in union with one another, we may understand why everything happens just as if the one were produced by the other. Why it is that when the Titan cleaves the head of Zeus the fully armed Athene springs into existence. To understand it we must see what it is that consciousness does, the purpose it fulfils. What we call consciousness is not the whole of mind. If it were, if part of mind were not always something of which we are unconscious in exactly the same sense that the material reality we perceive is always a part of a reality we are not perceiving, then the arising of consciousness at a particular juncture would be as inexplicable a miracle as that of the sudden existence of the fully armed goddess. The union of mind and body is in action. When we regard the facts from the standpoint of action, all difficulty in regard to them disappears. We can see the part the brain plays and the part the mind plays as clearly as we can see the part the senses play and the part the muscles play. First of all we see why there must be union, because without the body, the mind, whatever it is, whether or not it is a separate as well as a distinct existence, can do nothing. The body is the instrument of the mind's activity. And without the mind the body is the blind play of physical forces. Take them in their union and we see at once what the brain is—a great exchange office or switchboard, where the stimuli that come from the outer world are received and switched on to their responsive movements. We see also

what the mind is, it is the whole scheme of our activity, and we see how it functions by bringing the field of our activity to consciousness. The stimuli received become affections and are perceived, and memories give meaning to perceptions, and delineate prospective actions and so direct the response. It is therefore at this point, when the stimuli from the senses reach the cerebral cortex and before they issue in actions, that consciousness functions. If it is to serve action it is only there that its service can be effective. Naturally therefore it seems as if it is the functioning of the brain at this point that produces the mind.

This then is the answer we give to the question why it is that the mind seems to be, and yet cannot be, produced by the brain. The mind guides and controls what the body does, it directs the body's actions. There is only one point at which control of action can be effective, and that is where the responsive movement of the body to a stimulus received is initiated, that is in the cerebral cortex. Because the mind is acting there it seems to come into existence there. That is our reason for saying that everything must happen just as if the mind was produced by the brain. But the mind is a reality of an entirely different order to that which alone can be produced by physical movement or by the material disposition of such things as atoms and molecules. That is our first reason for saying the mind cannot be produced by the brain. The brain is a certain group of material particles, or a certain equilibrium of physical forces, occupying a definite position in space, which responds to movements by transmitting movements. The mind is a continuity of time, a duration, a perceiving of what is outside the body, a remembering of what is over and past, an imagining of what is not yet. None of these characters are spatial. That is our second reason for saying that the mind cannot be produced by the brain.

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ROGER BACON AND EXPERIMENTAL METHOD IN THE MIDDLE AGES.

THE year 1914 marks approximately the seventh centennial of the birth of Roger Bacon, and offers opportunity for a reconsideration of his place in thirteenth century thought and of his relation to modern science. Two hundred years ago, before Jebb had edited the *Opus Maius* in 1733, Roger Bacon was unappreciated and unknown. Today many will incline to celebrate his anniversary as that of the first rebel against mediæval scholasticism and the first prophet of modern science. They may feel that such recognition is the more due to his memory because they believe him to have been a prophet without honor and persecuted in his own age, or because they believe that in later times Francis Bacon received the praise that was Roger's due. They will set Roger's four causes of human error against Francis's idols; they will point to Roger's urging the study of Greek, Arabic, and Hebrew as well as Latin, and to his sharp criticism of the translations of Aristotle in vogue in his day, to his investigations in optics, to his insistence upon the importance of the mathematical method, whose value Francis scarcely realized; but above all they will remember Roger's criticism of scholastic methods, of reliance on authority, and his advocacy of experimental method. It is of this last point, long regarded as the brightest gem in Roger's crown, that the present article will treat, inquiring what Bacon's discussion of 'experimental science' really amounts to, whether his conception was a novel one or the common property of his age, and finally what the actual status of experimentation was at that time.

But before attacking this particular problem it will be well to give some idea of recent study of Bacon and the progress of opinion concerning him, especially since doing this will pave the way for our argument. Much attention has been given to Bacon since the editing in 1859 by Brewer of a number of his writings

hitherto unpublished,[1] and the almost simultaneous appearance in 1861 of Émile Charles's *Roger Bacon; sa vie, ses ouvrages, ses doctrines*. Unfortunately Charles wrote without knowledge of Brewer's labors, and it must be added that several writers on Bacon since have failed to keep abreast with the latest research in their field. These works by Brewer and Charles educed a number of minor essays and studies in the following decades.[2] Then a new impetus to the study of Bacon was given in 1897 when the *Opus Maius*, previously accessible only in Jebb's rare and incomplete edition, was re-edited by Bridges.[3] In the same year Father Gasquet published a new fragment which he regarded as an introduction to the *Opus Maius*.[4] In 1902 Nolan and Hirsch edited Bacon's Greek Grammar. Then in 1909 Professor Duhem gave to the world a newly discovered fragment of the *Opus Tertium:* in 1911 the British Society of Franciscan Studies printed the *Compendium Studii Theologiæ*, and, in 1912, more of the *Opus Tertium*.[5] Meanwhile Robert Steele, who in 1905 had edited a fragment of Bacon's Metaphysics, since 1912 has been producing the *Communia Naturalium*.

As Bacon's works have thus become more generally known and as standards of historical criticism have grown more strict, his life, doctrines, and point of view or personal equation have been more carefully examined and analyzed, and much legend and exaggeration have been exposed, although still repeated in some quarters. Indeed, the very writer who rejects some one legend may hold fast to the old view of Bacon in all other respects.

[1] Fr. Rogeri Bacon *Opera quaedam hactenus inedita*. Ed. J. S. Brewer, London, 1859; Vol. 15 of *Rerum Britannicarum medii aevi scriptores*, (published under the direction of the Master of the Rolls and usually spoken of as "The Rolls Series"). This work will hereafter be cited as *Brewer*.

[2] For bibliography of these and later works on Bacon see the article on Roger Bacon in the *Catholic Encyclopedia*, and "The Seventh Centenary of Roger Bacon (1214–1914)," by Fr. Paschal Robinson in *The Catholic University Bulletin*, Vol. XX, pp. 3–9 (Jan., 1914).

[3] The *Opus Maius* of Roger Bacon. Ed. J. H. Bridges, Vols. I and II, Oxford, 1897; Vol. III (correcting numerous errors in I and II), 1900. This work will be hereafter cited as *Bridges*.

[4] *English Historical Review*, XII, 494–517. This will be cited as *Gasquet*.

[5] *Part of the Opus tertium of Roger Bacon*. Ed. A. G. Little, Aberdeen, 1912. This will be cited as *Little*. It includes Duhem's fragment.

There is, therefore, the more reason for a brief collective review of this criticism which hitherto has been somewhat piecemeal and fragmentary.

For one thing, it is admitted by many that Bacon did not anticipate modern inventions by actual discoveries. As far back as 1864 *The Westminster Review* said: "It can easily be shown that of the things which Bacon is asserted to have invented, several were perfectly well known before his time, and the rest are nowhere described in his works."[6] He mentions spectacles and explosives but does not claim them as his own discoveries; he dreamed of future marvels of science but he worked none of them out in detail. Perhaps he thought that he could, but then, he thought that he could make gold artificially.

Secondly, Bacon cannot be proved a martyr to science, nor have we any evidence that his contemporaries hated him and that the church persecuted him for his scientific studies. On the contrary, his best works were produced at the command of the pope,[7] and one of their chief aims is to induce the church to enlist science in its service and to profit by scientific discoveries. Abbé Feret has shown how through the nineteenth century successive historians, including even Charles, kept adding to the story of Bacon's persecution by the Franciscans, without giving any references to the sources for details which they elaborated from their imaginations.[8] The legend that he was imprisoned from 1257 to 1267 rests simply on unwarranted inference from his own statements to the pope,[9]—statements which really only show that in recent years he has not won the fame which he thinks his due, that he is jealous of his more successful contemporaries, and that he is desperately anxious to secure the

[6] Vol. 81, p. 247, in an article on "The Philosophy of Roger Bacon." At page 1 of the same volume begins an article on "The Life and Writings of Roger Bacon."

[7] For the pope's letter see *Brewer*, p. 1.

[8] P. Feret, "Les emprisonnements de Roger Bacon," *Revue des questions historiques*, Vol. 50, pp. 119–142. See also the *Catholic Encyclopedia;* whereas the last edition of the *Brittanica* preserves the old legends. For a *reductio ad absurdum* of the legend-building note, A. Parrot, *Roger Bacon et ses contemporains*, Paris, 1894. Parrot also is ignorant of Brewer's edition and regrets that the *Opus tertium* is still unprinted (p. 51).

[9] Contained mainly in the first twenty chapters of the *Opus tertium.*

pope as his patron. However, an Assisi manuscript of the early fourteenth century states that in 1277, a decade after his writings to the pope, a council of his Order condemned "the doctrine of Rogerius Bacho, an English master of sacred theology, since it contained some suspected novelties, on account of which the said Roger was condemned to prison."[10] But what the novelties were we are not informed; they were probably theological rather than scientific. Some writers have assumed that they were astrological, but there was nothing 'novel' about Bacon's astrology.[11] Theories that Bacon was accused of magic are also unwarrantable inferences from his own statements. He complains that the Canon Law confuses mathematics and magic, and that philosophers are sometimes falsely accused of magic; it is thereupon assumed that what he says may happen to others did happen to himself.

In the third place, Bacon's outspoken criticism of the learning of his age is no longer unquestioningly accepted. A review in the *English Historical Review* for October 1912, "hopes that it is not an article of faith with the Society of Franciscan Studies to accept all of Roger Bacon's statements. As regards the state of knowledge among his contemporaries, his assertions are often of no greater value than the similar assertions of his distinguished namesake in a later age."[12] It is seen that his tendency to indulge in personalities and to belittle his distinguished contemporaries must be discounted. When he sneers at meritorious scholars like Albertus Magnus and William of Meerbeke,[13] one wonders how far to accept his hostile estimate of the schools at Paris, his boasts of his own superior knowledge and better methods of teaching, his professed exploitation of neglected fields in linguistics, mathematics, optics, alchemy, and experi-

[10] *Bridges*, III, 158.

[11] P. Mandonnet, "Roger Bacon et le 'Speculum astronomiæ,'" *Revue Néo-Scolastique*, Vol. 17 (Aug., 1910), tries to prove that Bacon and not Albertus Magnus wrote the *Speculum*, that it was written in 1277, and that he was condemned on account of it; but I see many reasons (which I hope to set forth in print soon) for hesitating to accept his conclusions. Mandonnet's method of historical inference in another connection has been satirized by Ch. v. Langlois in the *Revue de Paris* for Sept. 1, 1900.

[12] "W. H. V. R." on p. 810.

[13] *Opus tertium*, Cap. 2, and *Compendium studii*, Cap. 8 (*Brewer*, p. 14 and 472).

mental science. His censure of the translations of Aristotle in use at Paris loses much of its force, when we learn that he himself bases some of his views upon mistranslated passages from Aristotle,—passages which Albert and Aquinas translate as well or better than he.[14] Also we must remember that Bacon is addressing the pope and trying to interest him not only in the reform and advancement of learning but in Roger Bacon. So if, as Macaulay said, Francis Bacon seeking the truth was a very different person from Francis Bacon seeking the seals, we must remember that Roger combines both attempts at once.

Fourthly, the faults of Bacon's own learning, his superstition and credulity, his belief in alchemy and astrology, have been noticed, so that a recent reviewer speaks of "the usual Baconian atmosphere, in which science and superstition are happily or unhappily compounded."[15] These weaknesses are usually charged in large measure and correctly to the age in which Bacon lived; but, while some treat them as only throwing his merits into higher relief, these failings at least support Hastings Rashdall's assertion that "Bacon was more the child of his age than he imagined himself to be,"[16] and perhaps may be taken as an indication that his virtues, too, were those of his age.

Father Mandonnet, the erudite author of *Siger de Brabant et l'averroïsme latin au XIIIe siècle*, thinks that Bacon's importance has in many ways been over-estimated.[17] While Charles held that, if Bacon's scientific importance had been exaggerated, his value as a schoolman had been lost sight of, Mandonnet affirms that as a philosopher and theologian, Bacon was behind rather than in the forefront of his age. Bacon has been reproached for making philosophy and science ancillary to theology,[18] but he

[14] K. Werner, "Die Kosmologie und allgemeine Naturlehre des Roger Baco," *Sitzungsberichte d. ph.-hist. cl. etc.*, Wien, 1879, Band 94, p. 495.

[15] "W. H. V. R." in *English Historical Review*, Vol. 28, p. 805 (Oct., 1913).

[16] *Fratris Rogeri Bacon Compendium Studii Theologiæ.* Ed. H. Rashdall, Aberdeen, 1911, p. 3.

[17] Mandonnet, *Siger de Brabant*, Deuxième édition, 1908–1910, Vol. I, pp. 40, 244–8.

[18] See *Gasquet*, 509. Nam sum certus quod solum illud de philosophia est utile et dignum quod sapientia sacra dignatur, sicut ab ancilla, requirere; totum enim residuum stultum est et insanum. See also H. O. Taylor, *The Mediæval Mind*, II, 486.

could scarcely do otherwise when addressing the pope and trying to induce the church to support science.

This changing tide of opinion concerning Bacon's life and works both suggests that there may be room for further revision of our estimate of him, and provides a more correct setting for his discussion of experimental science. But to evaluate this properly we must rid ourselves of one more false assumption, namely, that mediæval learning was exclusively scholastic and theological, and that Bacon in his advocacy of natural science was "a voice crying in the wilderness." This notion still survives in writers whose estimate of Bacon is otherwise sane and critical. Thus the articles in *The Westminster Review*, quoted above against the attribution of modern inventions to Bacon, and which further state that the merit of the *Opus Maius* "lies rather in the spirit in which it was written than in the facts it records or in any merit which it may have as a scientific whole," go on to say that "Bacon preached a philosophy of which not half-a-dozen men in Europe saw the value, and of which the majority of really good men feared the results," and that "when Roger Bacon was laid in his grave the real philosophy was buried with him."[19] Such is still the impression given by otherwise excellent recent estimates of Bacon, such as those in the *Catholic Encyclopedia* and in Henry Osborn Taylor's *The Mediæval Mind*.[20]

But such an assumption is ungrounded. Most educated persons are, it is to be hoped, by this time aware that the middle ages were not 'dark ages,' that the classical revival of the 15th and 16th centuries was no new birth of civilization, and that our modern states, literatures, laws, cities, and universities had begun by the twelfth century. It should equally be realized that the rise of modern science can no more be associated with

[19] *Westminster Review*, Vol. 81, pp. 12, 9, and 252.

[20] Taylor's discussion of Bacon occurs in Vol. II, pp. 483–508. He goes farther than the sources justify in some of his assertions concerning Bacon's life, though he is caution itself compared to some writers. For instance, it cannot be shown that before 1266 Roger's pursuit of learning "had been obstructed by the Order of which he was an unhappy and rebellious member"; nor that "he had evidently been forbidden to write, or spread his ideas; he had been disciplined at times with a diet of bread and water."

the so-called Renaissance than with the so-called Middle Ages. The scientific interests and the characteristics of works on nature in those two periods were very similar. Of course there was progress, but there was no break, they merge into each other. Galileo's telescope was the natural outgrowth of earlier investigations concerning lenses which had resulted in the use of spectacles as early as the thirteenth century. Printers of the 15th and 16th centuries found plenty of readers for the many mediæval works on nature which they published and which often ran through several editions. The narrow humanist had no more interest in natural science than the narrow schoolman. In the middle ages logic and discussion were not the only forms of intellectual exercise, though they largely displaced the rhetoric and oratory of Roman days. The collection of facts was another engrossing pursuit, as the voluminous mediæval encyclopedias testify; there was keen curiosity about the things of this world. Open a book for general reading in a vernacular language, the long French poem, *The Romance of the Rose*, and you will find there more allusions to natural science and to human history than to logic and theology. Perhaps in the early middle ages literature was almost exclusively ecclesiastical and based upon patristic authorities. But through the twelfth century the tide of secular and scientific learning was rising, until in the first part of the next century the University of Paris was powerless to prevent the study of the newly discovered books of Aristotle in natural philosophy. Aristotle, moreover, was far from being the sum and substance of mediæval science which drew from many other sources, such as Ptolemy, Pliny, Galen, and the Arabs, and which made original contributions and practical discoveries of its own. It was an age when even a superstitious book on magic and necromancy such as *Picatrix* declared that science was God's greatest gift to man, since "It always is making acquisitions and never diminishes; it ever elevates and never degenerates; it is always clear and never conceals itself."[21] And

[21] Lib. I, Cap. 1, of *Picatrix* as contained in Ms. XX, 20, National Library, Florence. Semper acquirit et numquam diminuit; semper elevat et numquam degenerat; semper apparet et numquam se abscondit. *Picatrix* was translated from Arabic into Spanish by order of Alfonso X. (1252–1284), and eventually was translated into Latin. There are two Mss. of it at Florence.

even Bacon asserts that many scientific facts and truths were now known of which Plato and Aristotle, Hippocrates and Galen had been ignorant.[22]

It would be exceeding the limits of this article to discuss further this mediæval interest in natural science, and there are already a number of books or papers dealing with that field, although undoubtedly a great deal remains to be done. Even the subject of experimentation in the middle ages has been approached, but never sufficiently discussed. Pouchet in his *Histoire des sciences naturelles au moyen âge, ou Albert le Grand et son époque considérés comme point de départ de l'école expérimentale*[23] was one of the first to point out Albertus Magnus's insistence on the necessity of experience as a criterion of truth in natural science, but his discussion goes little farther than that. Abbé Narbey's "Le moine Roger Bacon et le mouvement scientifique au XIIIe siècle"[24] is another promising title which leads to disappointment. Mr. Taylor gives a discriminating analysis and estimate of Bacon's discussion of experimental science, considered *per se*, but regards it as a unique contribution, calling it "this most original and 'advanced' product of Bacon's genius."[24a]

It has, however, been observed that there was much practical experimenting in Bacon's time among artisans and alchemists. Picavet writes on this point, "It is well known that the technical arts attained great perfection. What is less realized is that the thirteenth century marks an important epoch in the history of the experimental sciences, that Roger Bacon is not an isolated apparition or exception. There was a whole school of alchemists who performed the experiments mentioned by ancient writers and devised new ones."[25] But this article will not compare what Bacon said with what others did but only with what others said;

[22] *Brewer*, p. 542; *De secretis operibus artis et naturæ et de nullitate magiæ*, Cap. 7.

[23] Paris, 1853.

[24] *Revue des questions historiques*, Vol. 35 (1884), pp. 115–166. Narbey is still another Frenchman who shows no acquaintance with Brewer's edition.

[24a] H. O. Taylor, *The Mediæval Mind*, II, 500.

[25] F. Picavet, *Esquisse d'une histoire générale et comparée des philosophies médiévales*, Paris, 1905, p. 224. See, too, P. E. M. Berthelot, *La chimie au moyen âge*, 1893, 3 vols.

it will confine its attention to allusions to experimental method in the writings of Bacon and his contemporaries. Many of the latter are today comparatively inaccessible and unknown, since they exist only in rare old printed editions; and the admirers of Bacon who reproach previous centuries with their neglect of Roger's works are unconscious that they are similarly neglecting a considerable group of mediæval men of science.

We have first to examine Bacon's discussion of "experimental science" (*scientia experimentalis*), to which one section of his *Opus Maius* is devoted[26] and to which he adverts more briefly in other works. He regards it as the best criterion of truth in natural science. "All sciences except this either merely employ arguments to prove their conclusions, like the purely speculative sciences, or have universal and imperfect experiences;"[27] while "It alone, in truth, has the means of finding out to perfection what can be done by nature, what by the industry of art, what by fraud"; for it alone can distinguish what is true from what is false in "incantations, conjurations, invocations, deprecations, and sacrifices."[28]

But how is one to set about experimenting? On this point Bacon is disappointing. His explanation of the rainbow, which is his longest illustration of the value of experimental science, is based merely on ordinary intelligent observation and reasoning, although he adds at the close that tests with instruments are needed and that consequently he will not assert that he has reached the full truth of the matter.[29] Elsewhere he speaks of astronomical experiments "by instruments made for this purpose," but seems to regard the unaided eyesight as sufficient for the investigation of terrestrial phenomena. Bacon has sent "over sea and to various other lands and to annual fairs, in

[26] *Bridges*, II, 167–222; *Little*, 43–54.

[27] *Gasquet*, 510. . . . scientie omnes preter hanc vel utuntur argumentis tantum ad probationem conclusionum suarum, ut pure speculative scientie, vel habent experientias universales et imperfectas.

[28] *Bridges*, II, 172. Hæc ergo sola novit perfecte experiri quid potest fieri per naturam, quid per artis industriam, quid per fraudem, quid volunt et somniant carmina conjurationes invocationes deprecationes sacrificia. . . .

[29] *Ibid.*, II, 201.

order that I might see the things of nature with my own eyes."[30] "And those things which are not present in our locality we may know through other sages who have experienced them, just as Aristotle by authority of Alexander sent two thousand men to different regions to experience all things on the face of the earth, as Pliny testifies in his Natural History."[31] The one contemporary who most nearly fulfills Bacon's ideal of what an experimental scientist should be, does not spend his time merely in reading, attending lectures, and engaging in disputations, but "is ashamed to have some layman or old-wife or knight or rustic know facts of which he is ignorant"; hence he goes out into the world and observes the doings of common workingmen and even takes hints from the operations of witches, enchanters, and magicians.[32] Bacon even believes that valuable medicines can be discovered by observing what remedies various animals employ. It would seem that experimental method is in a low stage of its development, if it takes lessons from common human experience and from the actions of brutes. Bacon sufficiently indicates, however, that it does not consist merely of observation and casual experience, but includes purposive experimentation, and he often speaks of "experimenters." Undoubtedly he himself experimented. But the fact remains that he gives no directions concerning either the proper environment for experimenting or the proper conduct of experiments. Of laboratory equipment, of scientific instruments, of exact measurements, he has no more notion apparently than his contemporaries.

Bacon says far more of the marvelous results which he expects experimental science to achieve than he does of method. Some of his dreams have been brought true by modern mechanical inventions, but in the main marvelousness rather than practic-

[30] *Gasquet*, 502. Unde multotiens ego misi ultra mare et ad diversas alias regiones et ad nundinas sollemnes ut ipsas res naturales oculis viderem et probarem veritatem creature per visum. . . .

[31] *Bridges*, II, 169. Et quæ non sunt præsentia in locis in quibus sumus, scimus per alios sapientes qui experti sunt. Sicut Aristoteles auctoritate Alexandri misit duo millia hominum per diversa loca mundi ut experirentur omnia quæ sunt in superficie terræ, sicut Plinius testatur in Naturalibus.

[32] *Brewer*, 46–47. Immo verecundatur si aliquis laïcus, vel vetula, vel miles, vel rusticus de rure sciat quæ ipse ignorat.

ability characterizes the aims which he proposes for *scientia experimentalis*. Indeed, of the three ways in which he represents it as superior to all other sciences, while one is that it employs sure proofs rather than mere arguments, two are that by it life may be greatly lengthened, and that from it a better knowledge of the future may be gained than even from astrology.[33] Thus experimental method is especially connected with alchemy and astrology. Bacon declares that "it has been proved by certain experiments" that life can be greatly prolonged "by secret experiences,"[34] and he believes that Artephius was enabled by such methods to live for a thousand and twenty five years.[35]

Some of his 'experiments' are as fantastic as the aims are marvelous. "A good experimenter says in the book *De regimine senum*" that the following elixir will greatly prolong life: "that which is temperate in the fourth degree, and what swims in the sea, and what grows in the air, and what is cast up by the sea, and plant of India, and what is found in the entrails of an animal of long life, and those two serpents which are the food of the inhabitants of Tyre and Aethiopia."[36] We also are told that "at Paris recently there was a sage who asked for snakes and was given one and cut it into small sections except that the skin of its belly on which it crawled remained intact; and that snake crawled as best it could to a certain herb by touching which it was instantly made whole. And the experimenter collected a herb of wonderful virtue."[37]

Credulity, in contrast to the skeptical attitude of modern

[33] *Gasquet*, 510; and *Bridges*, passim.

[34] *Bridges*, II, 205. Præterea certis experimentis probatum est, quod ista festinatio nimia est retardata pluries, et longævitas prolongata per multos annos per experientias secretas.

[35] *Ibid.*, 212.

[36] *Ibid.*, 210. Et ideo dicit experimentator bonus in libro de Regimine Senum, quod si illus quod est in quarto gradu temperatum, et quod natat in mari, et quod vegetatur in ære, et quod a mari projicitur, et planta Indiæ, et quod est in visceribus animalis longæ vitæ, et duo serpentes quæ sunt esca Tyrorum et Æthiopum, ...

[37] *Ibid.*, 208. Nam Parisius nuper fuit unus sapiens, qui serpentes quæsivit et unum accepit et scidit eum in parva frusta, nisi quod pellis ventris, super quam reperet, remansit integra, et iste serpens repebat ut poterat ad herbam quandam, cuius tactu statim sanabatur. Et experimentator collegit herbam admirandæ virtutis.

science, is a characteristic of Bacon's experimental method. He declares it true that experiment disproves many false notions, but he also asserts that credulity is necessary in experimentation. "First one should be credulous until experience follows second and reason comes third. . . . At first one should believe those who have made experiments or who have faithful testimony from others who have done so, nor should one reject the truth because he is ignorant of it and because he has no argument for it."[38] Taken as a plea for an open minded attitude toward scientific investigation on the part of the ordinary man and of the ecclesiastical authorities, this utterance may be commended; but as a prescription for the scientific investigator it is dangerous. Many of Bacon's 'experiments' are copied from books, and the reproach made against the Greek Empirics that they followed tradition, applies also to him. Describing a certain marvel of nature, he exclaims, "After I beheld this, there was nothing difficult for my mind to believe, provided it had a reliable author."[39] In the midst of his discussion of experimental science we encounter the following instance of his gullibility.

"It is certain that Æthiopian sages have come into Italy, Spain, France, England, and those Christian lands where there are good flying dragons; and, by an occult art that they possess, excite the dragons from their caves. And they have saddles and bridles ready, and they ride the dragons, and drive them at top speed through the air, in order to soften the rigidity and toughness of their flesh, just as boars, bears, and bulls are hunted with dogs and beaten with many blows before they are killed for eating. And when they have tamed the dragons in this way, they have an art of preparing their flesh . . . , which they employ against the accidents of age and prolong life and inspire the intellect beyond all estimation. For no education which man can give will bestow such wisdom as does the eating of their flesh, as we

[38] *Bridges*, 202. Unde oportet primo credulitatem fieri, donec secundo sequitur experientia, ut tertio ratio comitetur. . . . Et ideo in principio debet credere his qui experti sunt, vel qui ab expertis fideliter habuerunt, nec debet reprobare veritatem propter hoc, quod eam ignorat, et quia ad eam non habet argumentum.

[39] *Ibid.*, 219. Postquam enim hoc intuitus sum, nihil fuit meo intellectui difficile ad credendum, dummodo habuit auctorem certum.

have learned without deceit or doubt from men of proved trustworthiness."[40]

Bacon's discussion of experimental science, therefore, on its positive side amounts to little more than a recognition of experience as a criterion of truth and a promulgation of the phrase 'experimental science.'[40a] Let us now look at other writers. Bacon himself, by his copying 'experiments' from other books and by his locating an 'experimenter' even at degenerate scholastic Paris, has suggested that we may find the subject treated elsewhere. We shall not find, it is true, any such express and lengthy discussion of the matter as his, but we may get the same substance in briefer form from the fairly numerous incidental references to experience and experiment.

As for experience as a criterion of truth, as early as the twelfth century we find writers on nature either asserting this or implying it. Early in that century Adelard of Bath in his *Natural Ques-*

[40] *Ibid.*, 211. Nam certum est quod Æthiopes sapientes venerunt in Italiam et Hispaniam et Franciam et Angliam, et in istas terras Christianorum in quibus sunt dracones boni volantes, et per artem occultam quam habent excitant dracones de cavernis suis, et habent sellas et frœna in promptu, et equitant super eos et agitant in ære volatu fortissimo, ut dometur rigiditas carnium et temperetur durities, sicut apri et ursi et tauri agitantur canibus et variis percussionibus flagellantur, antequam occidantur pro comestione. Cum ergo sic domesticaverint eos, habent artem præparandi carnes eorum, . . . et utuntur eis contra accidentia senectutis, et vitam prolongant et intellectum subtiliant ultra omnem æstimationem. Nam nulla doctrina quæ per hominem fieri potest tantam sapientiam inducere valet sicut esus istarum carnium, secundum quod per homines probatæ fidei didicimus sine mendacio et dubitatione.

[40a] The weak points in Bacon's discussion of experimental science have not hitherto passed wholly unnoticed. Mr. Taylor grants that "even his discussion of experimental science has touches of mediævalism which are peculiarly dissonant in this most original and 'advanced' product of Bacon's genius"; wonders "where the *experimentator* ever observed an eagle or a phœnix renewing its youth, outside of the *Physiologus?*"; and recognizes "how loose must have been the practise or the dreams of his 'experimental science,'" and that "he repeats himself continually in stating its properties and prerogatives, yet without advancing to greater clearness of conception." "His fundamental conception seems to waver: *scientia experimentalis*, is it a science, or is it a means and method universally applicable to all scientific investigation?" (*The Mediæval Mind*, II, 500, 502, 504, 506). And the *Westminster Review* says, "Notwithstanding his forcible language about the prerogatives of experimental science and his bitter invective against frail authority, we find him occasionally resting on authority with childlike faith, and treating his favorite science as if its only prerogative was to provoke a smile." The *Review* then cites some of Roger's absurd 'experiments.' (Vol. 81, p. 241.)

tions attacked exclusive trust in authorities, and, while relying especially upon reason, also adduced experience.[41] Alexander Neckam (1157–1217), who in 1213 was elected Abbot of Cirencester, in his *De naturis rerum* calls upon "diligent investigators of nature" to testify to the virtues of words, herbs, and stones, which have been demonstrated "by most certain experience."[42] Michael Scot, writing early in the thirteenth century, often uses the word *experimentum* in his elaborate introduction to astrology.[43] So does Vincent of Beauvais later in the century in his huge work on nature, the *Speculum naturale*.[44] The *Thesaurus pauperum* of Peter of Spain, who seems to have become Pope John XXI (died 1277), is further described in its title as, "Or concerning the ills of the human body by experiments ingenious, simple, and particular; an empirical book, from all sorts of authors and my own experience."[45] The scholastic form of the celebrated *Conciliator* of Peter of Abano, composed about 1300 and one of the most elaborate of mediæval medical treatises, makes one scarcely anticipate mention of experience or experiment. Yet Peter couples reason and experience as of equal authority, disagrees with those who deny that medicine is a science because it employs experience as well as reason, and in other passages alludes to his personal astronomical observations and his own successful experimenting with an incantation and an astronomical image.[46]

[41] Adelardus Bathoniensis, *Quæstiones naturales perdifficiles*, Louvain, 1480, Caps. 16 and 18. The British Museum has two copies of this edition (48 leaves and 30 lines to a page), and one copy of an edition with 43 leaves and 32 lines to the page.

[42] Alexander Neckam, *De naturis rerum*, II, 85, in Vol. 34 of the Rolls Series. Neckam's editor, Thomas Wright, declared that "he not infrequently displays a taste for experimental knowledge."

[43] Michael Scot's *Liber Introductorius* exists in manuscripts at Oxford (Bodleian 266) and at Munich (*Cod. Lat.* 10268).

[44] Vincentius Bellovacensis, *Speculum naturale*, Nurembergæ, Anth. Koburger, 2 folio vols. I found this work at the library of the Union Theological Seminary, New York.

[45] Petrus Hispanus, *Thesaurus pauperum*, seu de medendi humani corporis morbis per experimenta euporista simplicia et particularia; liber empiricus ex omni genere auctorum et experientia propria, Frankfurt, 1578. This and most of the medical works which follow I consulted at the John Crerar Library, Chicago. Peter was really born in Lisbon (*Histoire Littéraire de la France*, Vol. XIX, 322 ff.).

[46] Pietro d'Abano, *Conciliator differentiatum philosophorum et medicorum*, Venice, 1526. Diffs. III, IX, CXIII, and X; or fols. 5, 14, 154, 16 and 15.

A favorite theory in the twelfth and thirteenth centuries is that the things of nature possess 'occult virtues' which cannot be reasoned out but must be learned experimentally. The hypothesis was still in force[47] that all natural objects were composed of only four elements, earth, air, fire, and water, and characterized by four qualities, hot, cold, dry, and moist. It was impossible even by the most ingenious reasoning to explain on this basis certain properties of objects, such as the action of the magnet. So men decided that things possessed occult virtues in addition to the qualities which they derived from their component elements. Many believed that these occult properties were due to the influences of the stars; but in any case all agree that they can only be discovered by experience. General principles and logic give no clue to them. Peter of Abano writes, "We perceive that precious stones and medicines have marvellous and occult virtues which cannot come from the qualities and natures of the elements. . . . Effects of this sort cannot be investigated by reasoning based on the qualities of the elements, but rather by experience."[48] In the same strain write Arnald of Villanova,[49] a medical author who died in 1312, Thomas Aquinas,[50] Albertus Magnus, [51] and others.

Indeed, writers on Albertus Magnus have not failed to notice that his scientific writings are neither mere commentaries upon Aristotle, nor compilations from a variety of sources; but that he both recognizes experience as a criterion of truth, and frequently states the results of his personal observations. This

[47] It of course came down from the classical period.

[48] *Conciliator*, Diff. LX, fol. 83. Conspicimus etiam lapides preciosos et medicinas virtutes mirabiles et occultas habere que ex qualitatibus et naturis non possunt consurgere elementorum. . . . Huiusmodi actiones per rationes a qualitatibus sumptas elementorum investigari non possunt sed per experientiam magis. . . .

[49] See his *Medicinalium Introductionum Speculum*, Cap. 18; *Repetitio super Canon 'Vita brevis,'* fol. 127 in his *Opera* as edited at Lyons, 1532; *De parte operativa*, fol. 276 in his *Opera*, Lyons, 1532. This edition was lent to me by the Harvard University Library.

[50] See his *De occultis operibus naturæ ad quemdam militem*, Vol. 27, pp. 504–7 in Fretté et Maré's edition of his *Opera*, Paris, 1871–1880; *Summa*, secundæ secunda, Quæst. 96, Art. 2.

[51] See his *De mineralibus*, Liber II, Tract. I; *De veget. et plantis*, V, II, 6. I have used Borgnet's edition of Albert's works, Paris, 1890–1899, 38 vols.

becomes especially evident in the last few books of his treatise on animals where he often states, "I have tested this," or "I and my associates have experienced,"[52] or "I have proved that this is not true," or "I have not experienced this."[53] In treating of whales he limits himself entirely to the results of his own experience, saying, "We pass over the writings of antiquity on this topic because they do not agree with experience."[54] Albert also often expresses doubt as to certain statements concerning animals on the ground that they have not been tested by experience, even if he has had no opportunity to disprove them; and he draws a sharp distinction between authors who state what they themselves have seen or tested, and those who appear simply to repeat rumor or folk-lore.[55] He is particularly chary of accepting the assertions of Solinus and Jorach, assuring us, anent their assertion that certain birds can fly unharmed through flames, "Those philosophers tell many lies and I think that this is one of their lies."[56]

On the other hand, Albert accepts as the statements of men of experience the stories which hunters, fowlers, and fishermen have told him. Toward such contemporary personal testimony he is, like Bacon, unduly credulous. He says that "a trustworthy person" told him that he saw in an eagle's nest 300 ducks, over 100 geese, about 40 hares, and many large fish, all of which were required to satisfy the hunger of the young eagles.[57] However, Albert is somewhat less credulous than Bacon on the

[52] *De animalibus*, 22, 2, 10; 22, 2, 99; 23, 1, 83; 23, 1, 5; 23, 1, 34; 23, 1, 35; 24, 1, 123, sicut olim in hac scientia probavimus; 26, 1, 10, experti sumus ego et socii mei; 26, 1, 14; 26, 1, 20.

[53] *Ibid.*, 23, 1, 23, experimento probavimus falsum esse; 23, 1, 57, probavi in quibusdam verum non esse; 23, 1, 9; 23, 1, 83; 23, 1, 14; 23, 1, 104.

[54] *Ibid.*, 24, 1, 28. Hæc sunt quæ de cetorum natura nos experti sumus, et ea quæ scribunt Antiqui præterimus quoniam non concordant cum expertis.

[55] *Ibid.*, 23, 1, 40, caps. 18, 20, 21; 25, Introd.; 23, 1, 54, Gryphes aves esse magis tradunt historiæ quam experta Philosophorum vel rationes philosophiæ; 23, 1, 93, Hæc autem potius in historiis leguntur quam sint experimento per philosophiam probata; 23, 1, 101; 26, 1, 47, Sed hoc licet sit famosum tamen a rumore vulgi potius acceptum est quam certo experimento probatum sit.

[56] *Ibid.*, 23, 1, 22. Sed illi philosophi multa mentiuntur et puto quod hoc sit unum de mendaciis eorum, See also 22, 2, 56, Sed iste Jorach frequenter mentitur; 25, 1, 5, Et sicut in multis mentitur Solinus ita et in hoc falsum dicit; 23, 1, 55. Statements by Pliny the Elder are rejected by Albert in 23, 1, 9; 25, 1, 13; 25, 1, 26.

[57] *Ibid.*, 23, 1, 9; also 22, 2, 19, and 24, Introd.

subject of dragons. That the Æthiopians eat the flesh of dragons to cool themselves, that dragons are afraid of thunder and therefore enchanters imitate the noise of thunder with drums in order to capture dragons and ride on them through space, that a dragon by a coil of its tail can crush an elephant: all these reports Albert treats as rumors rather than tested facts.[58] He also suggests that meteors or flaming vapors have been mistaken for dragons flying through the air and breathing forth fire. He has, however, "heard from trustworthy persons" that a serpent with the virgin countenance of a beardless man "was slain in an island of Germany and there displayed in our times to all who wished to see it until the flesh putrefied."[59] Albert also still states that adamant can be broken only by goat's blood, an error which Bacon rejects.[60] On the other hand, one notion which Bacon himself attacks but which he represents as generally accepted, namely, that the beaver when hunted castrates itself to save its life, Albert also rejects, saying that experience near his home has often proved the contrary.[61] Again, Bacon tells how he himself has profitted by an 'experiment' which the magicians pretend to perform by virtue of an incantation. The experiment consists in holding the split halves of a hazel rod apart at the two ends, whereupon the middle portions bend toward each other. Bacon says, "I omitted the incantation and discovered a marvel of nature."[62] But Albert and also John of St. Amand, a medical writer about 1261, both narrate this same marvel of nature and assure us that it works without the incantation.[63]

[58] *Loc. cit.*, 25, 1, 26.

[59] *Ibid.*, 25, 1, 28. Talem serpentem a fide dignis audivi interfectum esse in insula Germaniæ et diu monstratum nostris temporibus omnibus volentibus eum videre donec computruit.

[60] Albertus Magnus, *De mineralibus*, II, ii, 1.

[61] *De animalibus*, 22, 2, 1, 21; and Bridges, II, 168–9. See further Pouchet, 285–6.

[62] *Bridges*, II, 219. Et ego neglexi carmina et inveni opus naturæ mirabile.

[63] *De veget. et plantis*, VI, i, 29; John of St. Amand, *Expositio in Antidotarium Nicolai*, fol. 268 in *Mesuæ medici clarissimi opera*, Venice, 1568. John, however, states that the witches do not assert that their incantations make the sticks bend toward each other, but that the incantations prevent the rods from joining in case the marriage concerning which the witch is consulted is one destined to result unhappily.

It is true that Albert's allusions to experience occur mainly when he is discussing the specific properties of particular things. In his treatise on animals we find such allusions in the books where he is listing and describing particular animals, rather than where he discusses the general natures and common characteristics of animals. This is true again in his treatise *On Vegetables and Plants* where allusions to experience occur especially in the sixth book, in which particular plants are listed and described and, as Albert says, "We satisfy the curiosity of our students rather than philosophy, for philosophy cannot deal with particulars."[64] However, in his *Physics* Albert states that "every hypothesis which is confirmed by the senses is better than that which contradicts sense; and a conclusion contrary to sense is incredible: indeed, a principle which does not agree with *experimental knowledge* acquired by the senses is no principle but quite the opposite."[65]

Other authors than Bacon not only rely on experience, they also mention 'experimenters' and cite experimental books or 'books of experiments.' In short, others than he have conceived the possibility of purposive experimentation, although we find their ideas as to experimental method in the same crude state as his. Bernard Silvestris, a teacher at Tours in the first half of the twelfth century, entitled an astronomical treatise which he composed *Experimentarius*.[66] Early in the thirteenth century Thomas of Cantimpré, in the preface to his *De naturis rerum*, cites "a certain book without name of author which I have heard was compiled in modern times, whose statements you will know wherever you meet them from this indication, that you will find the name *Experimentator* (experimenter) prefixed."[67]

[64] *De veget. et plantis*, VI, i, 1. In hoc sexto libro Vegetabilium nostrorum magis satisfacimus curiositati studentium quam philosophiæ, de particularibus enim philosophia esse non poterit.

[65] *Physic.*, VIII, ii, 2. Omnis autem acceptio quæ firmatur a sensu, melior est quam illa quæ sensui contradicit; et conclusio quæ sensui contradicit est incredibilis: principium autem quod experimentali cognitioni in sensu non concordat, non est principium, sed potius contrarium principio.

[66] Clerval, *Les Écoles de Chartres*, Chartres, 1895, p. 240.

[67] Cited by the *Histoire Littéraire de la France*, Vol. 30, pp. 371–2. Invenies etiam librum quemdam suppresso auctoris nomine quem modernis temporibus compilatum audivi, cuius sententiæ ubique repereris ex hoc cognosces quod hoc nomen 'Experimentator' subsequentibus invenies prælibatum.

The *Speculum astronomiæ*, a treatise probably written by Albertus Magnus, mentions a *Book of Experiments* by the Arab Albumasar;[68] Arnald of Villanova attributes a book of experiments to another Arab, Rasis.[69] Bernard Gordon cites the opinions of "experimenters" in his *Lilium medicinæ* which he began to write in 1303.[70]

As Bacon's experimental scientist was "ashamed to have some layman or old-wife or knight or rustic know facts of which he is ignorant," so Arnald of Villanova admits that the practical man of experience may know more of nature than the bookish scholar. "For since the properties of things cannot be discovered by reason but only by experiment or revelation, and experience and revelation are common to the ordinary man and to the scholar, it is possible that knowledge of properties may be attained by the common people sooner than by others."[71] Arnald not only speaks of "experimenters" but of a "philosopher and experimenter"[72]; and in another treatise states that a certain hypothesis "can be satisfactorily proved by the long experience of any intelligent operator."[73] He also speaks of "rational experiment" which "always presupposes a determined object."[74]

John of St. Amand asserts that *experimentum* alone is "timorous and fallacious," but that "fortified by reason" it gives "experimental knowledge." His idea seems to be, not only that experience must be combined with theory, but also that there should be methodical experimentation. He gives seven rules to be observed in discovering experimentally the properties of medicinal simples: that the simple tested should be pure and free from every extraneous quality, that it should be tested in a

[68] *Speculum astronomiæ*, Cap. 7.

[69] *Opera*, Lyons, 1532, fol. 276.

[70] Bernard Gordon, *Lilium medicinæ*, Venice, 1496, fol. 159 (Pars V, Cap. 12).

[71] From his *Repetitio* super Canon 'Vita brevis,' Opera, Lyons, 1532, fol. 276. Nam cum notitiam proprietatum non possit haberi per rationem sed tum experimento vel revelatione, et experientia et revelationes sunt communes vulgo et sapientibus, possibile est ut proprietatum notitiæ prius habeantur a vulgaribus quam ab aliis.

[72] *Regimen podagræ*, fol. 210–211 in the *Opera*.

[73] *Regulæ generales curationis morborum*, Doctrina IV. Quod potest valde bene haberi per experientiam longam cuicunque operanti et intelligenti.

[74] *Medicinalium Introductionum Speculum*, Cap. 19. Rationabile enim experimentum semper præsupponit determinatum obiectum.

simple and not a complex disease, that several tests be made, that the dose administered should be proportioned to the patient's constitution, and so on.[75]

On the whole one rather gets the impression that the experimental method which Bacon pleads for, as if it were a novelty, is calmly assumed by other writers as a well-established method. It is even doubtful if Roger can be credited with having coined a new phrase in 'experimental science,'[75a] since not only do others employ the adjective 'experimental' and the noun 'experimenter,' but both Albertus Magnus and John of St. Amand use the expression 'experimental knowledge.'

It is significant that others not only duplicate Bacon's positive contributions, but that their experimental method is characterized by precisely the same failings as his. They display the same credulity and love of the marvelous, and are especially prone to mention experiment when they wish to prove something unreasonable, and to support incredible assertions by assurances that they have been tested by experience. They show the same inclination to fantastic 'experiments.' What Arnald's "experimenters" have proved is that a frog's legs bound to the patient's feet for three days, with the right leg on the right foot and the left leg on the left foot, cure gout. What his "philosopher and experimenter" has demonstrated is that application of the magnet has the same effect. To Socrates Arnald attributes this "marvellous and choice experiment." "In young swallows are found two stones, one red and one white. Application of the white stone will raise up a falling lunatic; and the red stone will benefit him, if tied in a bit of skin about his neck."[76] Albert matches Bacon's snake experiment

[75] *Expositio in Antidotarium Nicolai*, fol. 231 in *Mesuæ medici clarissimi opera*, Venice, 1568.

[75a] Sebastian Vogl, *Die Physik Roger Bacos*, Erlangen, 1906, p. 17, says of *scientia experimentalis*, "Diese Bezeichnung tritt in seinem Werken zum erstenmal auf und verschwindet von da ab nicht mehr." Franz Strunz, *Geschichte der Naturwissenschaften im Mittelalter*, Stuttgart, 1910, 120 pp. (no references), also says of *scientia experimentalis*, "Das Wort steht hier bei diesem Gelehrten das erstenmal" (p. 97).

[76] *De epilepsia* (fol. 311 ff. in the *Opera*), Cap. 4. Socrates vero recitat hoc experimentum pro mirabili et electo: in pullis inquit irundinum inveniuntur duo lapides quorum unus est rubens, alter est albus; albus quidem lunatico cadente appositus levabit eum; rubens autem acceptus et ligatus in pelle collo ei apponitur.

by one with a toad and emerald, which he tells to illustrate "the many effects of stones and plants that are known by experience and by which wonders are worked."

"An emerald was recently seen among us, small in size but marvelous in beauty. When its virtue was to be tested, someone stepped forth and said that, if a circle was made about a toad with the emerald and then the stone was set before the toad's eyes, one of two things would happen. Either the stone, if of weak virtue, would be broken by the gaze of the toad; or the toad would burst, if the stone was possessed of full natural vigor. Without delay things were arranged as he bade; and after a short lapse of time, during which the toad kept its eye unswervingly upon the gem, the latter began to crack like a nut and a portion of it flew from the ring. Then the toad, which had stood immovable hitherto, withdrew as if it had been freed from the influence of the gem."[77]

The following experiment with a religious tinge was a favorite with medical writers. I quote John of Gaddesden's version.

"Since many boys and others who cannot take medicine are troubled with epilepsy, let the experiment be performed which Constantinus gives in the chapter on epilepsy in the fifth book of his *Practica*, and Walter in his *Practica*, and Bernard, and Gilbert, and everyone. And I have found it true, whether the patient be a demoniac, or epileptic, or lunatic. If he has a father and mother, let them take him to church after fasting with him for three days, and let him make confession, provided he has reached years of discretion. Then let them go on Friday in the fast of four seasons and hear mass, and let them repeat this on Saturday. On Sunday let a good religious priest read in church over the patient's head the Gospel which he reads in

[77] *De veget. et plantis*, VI, ii, 1. Smaragdus enim nuper apud nos visus est parvus quidem quantitate et mirabiliter pulcher, cuius cum virtus probari deberet, adstitit qui diceret, quod si circa bufonem circulus smaragdo fieret et postea lapis oculis bufonis exhiberetur, alterum duorum, quod aut lapis frangeretur ad visum bufonis si debilem haberet lapis virtutem, aut bufo rumperetur si lapis esset in naturali suo vigore: nec mora factum est ut dixit et ad modicum temporis intervallum, dum bufo adspiceret lapidem nec visum averteret ab ipso, crepitare coepit lapis sicut avellana rumperetur et exilivit ex annulo una pars eiusdem, et tunc bufo qui ante stetit immobilis, cœpit recedere ac si absolutus esset a lapidis virtute.

September after the harvest feast of the holy cross in the days of the four seasons. Moreover, let him devoutly write the same, and let the patient wear it about his neck and he will be cured. The Gospel meant is the passage, 'This kind of demon is not cast out except by fasting and prayer.'"[78] Many more such 'experiments' might be given.

In reality, therefore, Bacon's discussion of experimental science, instead of being a wonderful original contribution to knowledge, is an excellent representation of both the good and bad points of an important movement of the time in the direction of experimental method. Crude as this tendency may be, it at least demonstrates that the interests of the period were not exclusively scholastic.

Two further questions concerning experimental method in the middle ages suggest themselves. Was there any positive advance in this respect over the science of the classical period? How are we to explain the association of so much superstition with experimental method?

To the former question I incline to answer, Yes. Pliny the Elder, whose *Natural History* (written in the first century of our era) was a compilation of all previous science, should know of experimentation if it had ever amounted to much hitherto. He frequently uses the word *experimentum* but seldom in such a way that it is best translated 'experiment.'[79] He never uses

[78] John of Gaddesden, *Rosa medicinæ* (written in the early fourteenth century). Papiæ, 1492 (Joannes antonius birreta impressioni tradidit). Et cum multi pueri et alii qui non possunt uti medicinis vexantur epilepsia, fiat experimentum quod ponit Constantinus 5 practicæ suæ c. de epilepsia, et Gualterius in practica sua et Bernardus et Gilbertus et omnes. Et ego inveni illud verum sive sit demoniacus sive lunaticus sive epilepticus. Si patrem habet et matrem, ducant eum ad ecclesiam facto jejunio trium dierum a parentibus et a patiente, si sit tantæ ætatis quod sit compos sui, et confiteatur. Deinde vadant die veneris in jejunio quatuor temporum et audiant missam de die et similiter in die sabbati. Die dominica sequenti sacerdos bonus religiosus legat supra caput patientis in ecclesia evangelium quod legit in septembri tempore vindemiarium post festum sanctæ crucis in diebus quatuor temporum. Tunc etiam scribat illud idem devote et portat circa collum et curatur; et est evangelium ubi dicitur, Hoc genus demonii non ejicitur nisi in jejunio et oratione. The same recipe occurs in Bernard Gordon's *Lilium medicinæ*, Partic. II, Cap. 25, fol. 76.

[79] Often it simply means experience, as in the passage, "Let him marvel at this who has not observed by daily experience that the herb called heliotrope always

the words 'experimental' and 'experimenter', which are post-classical. Several of our mediæval writers cite Galen as an authority for the recognition of experience as a criterion of truth.[80] It is true that Galen, writing a century later than Pliny and showing an advance in anatomical and medical knowledge over his predecessors, approaches more closely the conception of experimental method. He himself engaged in original research in anatomy, dissecting and vivisecting, and proving by actual experiment that the arteries contain blood, not air.[81] It is true, as John of St. Amand and Peter of Abano state, that Galen makes both reason and experience criteria of truth in medicine;

turns toward the sun." II, 41, 2 (Edition by Lemaire, Paris, 1827): see also, II, 41, 1; II, 108, 1; VII, 41, 2; VII, 56, 3; XIV, 8, 2; XVI, 1, 3; XVII, 2, 3, and 12; XVII, 35, 9; XX, 52, 1; XXII, 51, 2; XXIII, 59, 1; XXV, 106, 2. Again it may be rendered as "example" or "actual instance," as when Pliny says, "We have instances (experimenta) and examples (exempla) in the last census" of men who have lived over 120 years. VII, 50, 3; also, II, 54, 2; VIII, 7, 2; IX, 86, 1; XXII, 49, 5; XXVIII, 45, 2. Or it may mean use, as in the passage, "Reeds useful in both war and peace," or where it is stated that most plants "have been recommended for frequent use by their edibility or odor or beauty," XVI, 64, 1; and XXII, 1, 1. When Pliny tells that Claudia was shown to be chaste by a religious ordeal, the phrase used is, "religionis experimento," VII, 35, 1. Often the word means 'test,' as when Pliny discusses ways of testing the genuineness of gems, the freshness of eggs, and the realism of paintings: see V, 1, 12; X, 75, 1; XIII, 3, 1; XIV, 25, 7; XVII, 4, 2; XX, 3, 1; XX, 76, 5; XXII, 23, 1; XXIII, 31, 1; XXVIII, 7, 2; XXIX, 12, 1; XXXI, 27, 2; XXXI, 28, 2; XXXIII, 19, 2, and 43, 1, and 44, 1, and 57, 2; XXXIV, 26, 3, and 39, 2; XXXV, 36, 2; XXXVI, 38, 1, and 55, 2; XXXVII, 22, 1, and 76, 1–2. Purposive action is clearly suggested in only a few cases: namely, where Pliny says that experiments cannot entirely duplicate nature in the grafting of trees; where he describes as an experiment the marking of a dolphin's tail in order to learn the dolphin's age, if it should be caught again; where a well was sunk to prove that the sun casts no shadow at noon of the summer solstice; and where a man was cast into a pit of serpents at Rome to discover if he really was immune from them. XVII, 26, 3; IX, 7, 2; II, 75, 1; XXVIII, 6, 1; and perhaps, XXVIII, 14, 3; XXIX, 4, 1, and 8, 3.

Of course, in the middle ages, too, the word 'experimentum' does not always carry the meaning of experiment. It may indicate experience, or be used of the results of experience. Recipes as well as procedures, often mere lists of ingredients which are to be tried or are supposed to have been successfully tested as remedies against various diseases, are often called 'experimenta' by medical writers. Thus Bernard Gordon gives nine 'experimenta' for eye troubles. *Lilium medicinæ*, Partic. III, Cap. 5, fol. 94.

[80] Pietro d'Abano, *Conciliator*, Diff. X, fol. 15; Diff. LX, fol. 83. Jean de Saint-Amand, *Expositio in Antidotarium Nicolai*, fol. 231. Arnald of Villanova, *Repetitio super Canon 'Vita brevis,'* fol. 276.

[81] See Vol. II, pp. 642 and 646–649; IV, 703–36 in Kuhn's edition of Galen.

but as he insists that they ought not to be employed simultaneously, he misses the essence of experimental method. He further objects that experience is unscientific, irrational, and that it "requires good fortune to find what is sought." Once he identifies it with mere observation.[82] The Empirics were the chief advocates of experience in the ancient medical world, and Galen broaches the topic mainly in connection with allusions to their sect. He usually depicts them as over-emphasizing experience and neglecting reason, as regarding phenomena only and ignoring causes, as learning what drugs to use from dreams and chance, and as trusting unquestioningly in authorities and tradition for information concerning the experience of past ages.[83] The Empirics themselves insisted that experience was a scientific method.[84] They distinguished three kinds, of which Galen unfortunately gives no further description, namely, accidental, off-hand, and imitative.[85] They held that observation of a single instance was not enough, but that repeated observation with things remaining in the same condition was necessary.[86] Thus they seem both to have had some of the faults of our mediæval scientists and to have had at least some notion of controlling the results of experience. Indeed, Galen himself believes that the properties of medicinal simples can and should be learned from experience, and gives some rules for testing their effects from which John of St. Amand seems to have developed his longer directions.[87] Admitting, however, the debt of the middle ages to Galen, it seems true that they rely more frequently on experience than the ancients did; that they apply it more generally through the field of science, rather than merely to medicinal simples as Galen did, or to medical practise as the Empirics did; that they have developed the theory of occult virtues which can be discovered only by experience; that they have 'experiments' and 'experimenters' and entire books called

[82] Kuhn, X, 28–31: also I, 131 and 138; XIV, 675–6.
[83] Kuhn, XIV, 220 and 245, 679–680; I, 143; also XVI, 82; I, 76 and 134.
[84] Kuhn, I, 76.
[85] Kuhn, XVI, 82.
[86] Kuhn, I, 135.
[87] Kuhn, XVI, 85–87; XI, 485 and 518.

experimental. Others besides Bacon seem conscious that science is finding a new method in their day, and Peter of Spain, in stating his sources of information, speaks of "ancient philosophers" but of "modern experimenters."[88]

As for the other matter, the credulity, the superstition, the element of marvelousness, which seem to vitiate the experimental tendencies of Bacon and his contemporaries,—these are to be explained as the result of a real connection between experiment and magic. There is abundant evidence for this. Bacon, it is true, asserts that experimental science exposes and shuns all the follies of the magicians, but he admits that many persons confuse it with magic because of the marvels which it works, and he himself especially associates it with the occult sciences of alchemy and astrology. It makes gold such as neither the art of alchemy nor nature can produce; it can predict the future better than astrology.[89] It teaches one to choose the proper constellations for his undertakings, and to use the right words at the proper times;[90] it can construct "philosophical images and incantations and characters" which are vastly superior to those of magic;[91] it can alter the world about us, and incline and excite the human will, though without coercion.[92] Moreover, Bacon's ideal experimental scientist does not scorn to take hints from wizards, while Roger himself derives his hazel rod experiment from the magicians. The snake experiment of his sage at Paris sounds more like the trick of a Hindu conjurer than the procedure of a modern laboratory.

One gets the same impression from Bacon's contemporaries. The conception of occult virtue, which leads them so often to rely on experience, is a more or less magical notion, akin to the *mana* of primitive magic.[93] Believers in astrology, divination, and fascination also appeal to experience. Vincent of Beauvais

[88] Petrus Hispanus, *Thesaurus pauperum*, Frankfurt, 1578, Preface. In libris antiquorum philosophorum et modernorum experimentatorum.

[89] *Little*, 46; *Gasquet*, 510.

[90] *Little*, 52.

[91] *Ibid.* 53.

[92] *Gasquet*, 510. Opera vero istius scientie quedam naturalia sunt in alteratione mundi, quedam in excitationem et inclinationem voluntatum sine coactione.

[93] For "L'idée de *mana*" see H. Hubert et M. Mauss, "Esquisse d'une Théorie Générale de la Magie," *L'Année Sociologique*, 1902–03, pp. 1–146, especially 109 ff.

says that divination from portents is proved by many experiences, and that the influences of the planets upon our world were discovered by philosophers by "sure experiments" as well as by "convincing arguments."[94] Albertus Magnus assures the reader that divination from dreams is "no idle report but the testimony of experience."[95] In another treatise which has sometimes been attributed to Albert we read, "When the soul of any person is raised to great excess of some passion, it is found by manifest experiment that it binds and alters objects as it wishes."[96] The experiments of Bacon's contemporaries, too, are often more like feats of magic than like scientific tests. Gaddesden's experiment employed an incantation and amulet. Peter of Abano experimented with an incantation and an astronomical image; and a necromantic book attributed to him bears the sub-title, "A book of marvellous experiments."[97] Michael Scot describes "a chiromantic experiment," and mentions "love experiments" and the experiments of necromancers and magicians.[98] Arnald recounts an "experiment" performed by an old-wife of Salerno to help women in childbirth. It consisted in taking three grains of pepper; saying a Lord's Prayer over each with substitution of the sentence, "Deliver this woman from the pangs of childbirth," for the words, "Deliver us from evil"; giving the grains one by one to the woman to be swallowed in wine or water without touching the teeth; and finally uttering this incantation with three Paternosters in her right ear,

[94] *Speculum naturale*, XXXII, 119; XVI, 43.

[95] *De somno et vigilia*, III, i, 2. Est enim hoc non auditus inanis sed experientiæ testimonium.

[96] *De mirabilibus mundi*, p. 159 in an edition of Amsterdam, 1740 (Columbia University Library), where it is bound with the *De secretis mulierum*. These works are omitted from Borgnet's edition, but there are no very convincing reasons for doubting Albert's authorship. The passage reads, "Cum igitur anima alicuius fertur in grandem excessum alicuius passionis, invenitur experimento manifesto quod ipsa ligat res et alterat ad idem quod desiderat."

[97] *Heptameron seu elementa magica;* bound with the *Opera* of H. C. Agrippa Lyons, 1600, pp. 441–462 (Cornell University Library).

[98] *De secretis naturæ* (a portion of Scot's long work on astrology which is printed in the edition of Amsterdam, 1740, mentioned in note 96), Cap. 18, In chiromantia est illud experimentum, etc. Bodleian ms. 266, fol. 22 v. quotiens nigromantici vel magi volunt experimentorum aliqua operari veraciter; and fol. 106 r. hec stella est multe efficacie ad experimenta amoris.

Bizomie lamion lamium azerai vachina deus deus sabaoth
Benedictus qui venit in nomine domini osanna in excelsis.

Arnald condemns this procedure as diabolical and contrary to the Faith, but he calls it an experiment nevertheless; and earlier in the same treatise describes approvingly a very similar experiment by which a priest cured him of warts.[99] Albert concludes his tale of the toad and the emerald by stating that there are many other effects of stones and herbs, which we learn by experiment, and which magicians study, and work wonders by means of them.[100] In the *Speculum astronomiæ* he calls "experimental books" those which deal with different varieties of divination, namely, aeromancy, pyromancy, hydromancy, geomancy, and chiromancy; and he declares that such books ought not to be called science, [101] which recalls Bacon's remark that to some men experimental science seems false and unworthy of a Christian. In a treatise entitled *Apollonii Flores aurei*,[102] which treats of the Notory Art of miraculous acquisition of knowledge by incantations and invocation of spirits, experiments and experimental science are again mentioned in the same breath with the above named varieties of divination. Books "which are nigromantic or contain the experiments of lot-casters" were condemned at Paris in 1277 together with the opinions of Siger de Brabant.[103]

This is not the place to discuss magic, but from further investigation which I have made of its history and its relations to science[104] I have little doubt that the connection between it and

[99] *Breviarium* (fols. 150–205 of the *Opera*), III, 4; and II, 45.

[100] *De veget. et plantis*, VI, 11, 1. Sunt autem multi alii effectus lapidum et plantarum qui experimento accipiuntur in eosdem in quibus student magici et mira per eos operantur.

[101] *Speculum astronomiæ*, Cap. 17.

[102] This treatise is contained in two manuscripts of the fourteenth century at Munich, *Cod. Lat.* 268 and 276. See fols. 5–6 of the latter.

[103] Denifle et Chatelain, *Chartularium Universitatis Parisiensis*, I, 543. Libros, rotulos, seu quaternos nigromanticos aut continentes experimenta sortilegiorum.

[104] Lynn Thorndike, *The Place of Magic in the Intellectual History of Europe;* New York, 1905. "The Attitude of Origen and Augustine to Magic," *The Monist*, XVIII, 46–66 (January, 1908). "Julius Firmicus Maternus, A Roman Astrologer as a Historical Source," *Classical Philology*, VIII, 415–435 (October, 1913). An article on "Some Mediæval Conceptions of Magic" will soon appear in *The Monist*.

experimentation which our authors suggest is real. But this is not so much to the discredit of science as it is to the credit of magic. After all it is not surprising that magic, which was curious and tried to do things and to attain practical results, and which as long ago at least as Pliny the Elder's day had investigated nature,[105] should experiment. It is indeed possible that magicians were the first to experiment, and that science, originally speculative, took over experimental method, as well as the conception of occult virtue, from magic.

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[105] The *magi* stand out in the pages of Pliny's *Historia naturalis*, not as mere sorcerers or enchanters, but as those who have gone farthest and in most detail,—too curiously, in Pliny's opinion—into the study of nature.

THE PROBLEM OF KNOWLEDGE FROM THE STANDPOINT OF VALIDITY.

(Third Article.)

BROADLY generalizing, we may say, there are two ways in which the problem of knowledge almost inevitably presents itself. On the one hand it is conceived to be primarily the problem of validity, the ultimate question being: What is it that constitutes *anything whatever* knowledge? On the other hand it is apprehended as essentially a question of import, and import, when analyzed, is found to be identical with what may be variously designated range, amount, degree, or generally speaking, quantity. Underlying this latter view is the reasonable assumption that knowledge is a thing which admits the distinction of more and less. Accordingly it seems natural to suppose that the concept of knowledge will itself be determinable by the same considerations which determine its increase. Its differentia, that is to say, will be found in the more-and-less distinction, and an intelligent grasp of the latter will be looked upon as the only legitimate object of the inquiry. What makes knowledge, then, is just what makes it more, and to understand what *more knowledge* means and what distinguishes it from less, is to understand the thing itself. But more knowledge, to put it as briefly as possible, is the same thing as knowledge that means more. The whole question is therefore one of import.

Thus, on the one view, degree or amount is a secondary feature of the thing which admits such variation; and the defining character of the latter is to be sought in a supposed validity which, whatever its basis, must be prior to a distinction which presupposes it. On the other view, there can be no question of validity which is not a question of degree, and to seek a fixed definatory formula independently of this consideration is to commit the fallacy with which Hegel charges the Critical Philosophy.

Now it is evident that import or significance—the fulness of

content in knowledge or what, as such, knowledge means—cannot be a matter of indifference in determining the concept. But the position here assumed is that significance of itself is not sufficient to define the character of knowledge. The mode in which the significance manifests itself must be taken into account; and there is surely a sense (and that a very true sense) in which it is possible to *know* a content of relatively low significance, and to know it better than a more significant content. In this case, whatever the connection, there must be a difference of *meaning* between the ideas of *more knowledge* and *better known;* and knowledge itself becomes the prior concept required in order to determine the special significance of more and less in this respect. We are left therefore with the notion of validity as the determinant factor; and of this it remains to complete the concept.

Keeping in mind the expediency of reserving final metaphysical issues, and confining ourselves to the actuality of knowledge as a fact which must be assumed, we may return to our illustration—viz., the residual knowledge obtained by the elimination of unwarranted interpretation. The import of such knowledge may not be great—although it is by no means clear that this need be so.[1] But the slightness of the import does not in any way interfere with the value of the instance; for it is just in such cases that the other factor in validity (the mode of presentation) is likely to be of greatest weight.

[1] On the metaphysical character and epistemological value of *sensation* there are several striking utterances in Professor W. E. Hocking's recent remarkable volume: *The Meaning of God in Human Experience. Vid.* especially pp. 301–2; 313; and appendix III, on "The Knowledge of Independent Reality", reprinted in part from an article published in the PHILOSOPHICAL REVIEW, Vol. XIX, No. 3, May, 1910, under the title, "How Ideas reach Reality." The present writer greatly regrets that he has been unable to avail himself in these articles of the stimulus of Mr. Hocking's work—the more so as the analytic method here employed, by emphasizing distinctions, may have given rise to the appearance of a much greater difference between us than really exists. The antithesis suggested between religious truth and the 'gross actualities' of historical development must (if it be allowable to anticipate) not be taken in any sense that would exclude an ample recognition of the metaphysical and religious import of history and, generally speaking, of the 'literal' in experience. The 'Creativity of Religion' and the 'Prophetic Consciousness' are undoubtedly among the essential and legitimate, as they are perhaps the most refractory, elements in a complete metaphysical treatment of the subject.

The reduction of a misinterpreted or over-interpreted experience of sense to a simple and indisputable nucleus is apt to be explained in a somewhat misleading way. There is danger of saying, for example, that when I have removed all that I wrongly took the experience to mean I am confronted with the certain knowledge of my sensation as such, that what I really know and cannot help knowing is that I am experiencing a sensation, say, of green color. What is wrong in this is that it appears to impart a subjective turn to what may, in any case, very well be, and in the sense here involved must be a completely objective content of knowledge. That is, what I know is probably not anything about my sensations as such or about myself as having them, but merely that the object presented is a green color. And even if the content of my knowledge in this instance is myself or my sensation, still, as a subject for validity, the content must be entirely objective.

We must now ask: What is it that constitutes the irrefragable validity of the knowledge contained in an experience of this type? The answer can only be: It is the complete commensurability between the object actually present to sense and the meaning of that object. Or, we might say, it is the fact that a more or less significant import has become actualized in a presentation. As has been hinted, the import even in such cases is not always or necessarily insignificant, and there is no need to suppose that the process of reduction must always terminate in a minimal presentation such as we have assumed. Everything depends on the capacity of the presentation as such to sustain significance. It will be said that there is no meaning in such language, since import is not a simple character resting upon or inherent in the individual presentation, but a complex product of many factors, implying above all the agency of what logic calls mediation. And this may be true; but neither is the presentation as such ever a completely simple and undifferentiated character. Indeed, in arguments like that involved in the illustration of a minimal knowledge, it is apt to be forgotten how great is the range and complexity of the presentations which are continually pouring in upon us in the actuality of experience.

In view of this we may safely assert that whether or not it is the normal character of knowledge that the interpretative factor be far in advance of what we might call the presentation equivalent, the latter constitutes a manifold of inexhaustible richness. Nor must it be forgotten that in our ordinary mental economy we find it as safe as it is convenient to dispense in attention with much the greater part of the presentation complex, thus investing the remainder with all the greater import. Whatever may be the risks and potential disasters due to such a procedure, it at least implies that we ordinarily find the presented data in excess of the strict requirements of knowledge, and that in the actual adjustment of factors we have no hesitation in entrusting to a few representative sensations a vast weight of significance. Of course the representative function is here symbolic—which means that there is a thorough disproportion between the actuality of the sensation (or the sensation reduced to minimal terms) and the range of significance attributed to it. It may be, however, that when we consider the combined intricacy and uniformity of experience, there are complications which a relatively simple presentation may acquire with all the force of a fundamental characterization, and which therefore cannot be shed off except in the analytic processes of abstraction. If so, there is no epistemological significance in the apparent disproportion between presentation and interpretation. Whether there are such complications is all a question of how far the element of necessity is capable of entering into experience as such. The view we have designated rationalistic does not count upon such a necessity as genuine; and Kant's view, which establishes or assumes the necessity of the ideal principles underlying experience, does not succeed, as we have seen, in sustaining this same necessity within experience itself. But that experience even in its material or empirical aspect contains its own necessities is clear from the case of the minimal presentation alone. A sensation of green color cannot as such sustain the significance of a sensation of red as such. And when we have admitted even this amount it becomes apparent that the mere fact of an orderly uniformity is not conceivable apart from a

large proportion of necessity in the elements themselves. At all events, in case of uncertainty or falsification arising out of the disproportion referred to, the first consideration is to reestablish the disturbed balance between the two sets of factors. This of itself indicates the epistemological significance of the equilibration. The method employed involves either the elimination of interpretative accretions in the manner already made clear, or, if the difficulty is due primarily to the neglect of actual data, the attempt to restore the presentation equivalent. The examination of witnesses naturally takes one or other of these forms according as the motive is to destroy or to establish evidence.

The defining character of epistemological validity in such instances as we are now considering must therefore be understood to lie, not in the amount of import as such, but in a certain proportionateness between import and the experiential conditions of the case. Of course the equivalence involved is not a proportion between abstract sensation, devoid of all significance on the one hand, and pure, undirected mental elaboration on the other. If it were so there could be no talk either of interpretation or of commensurables. The unit in each case is a complex directly or indirectly involving both elements. By an equivalence therefore must be understood the perfectly normal condition whereby a presentation accepts an additional and perhaps relatively free connotation on the same grounds of legitimacy as those on which it accepted and continues to maintain an original meaning or complication. The acquisition of meaning is an original character of sensation itself, apart from which we cannot *know* our sensations; and throughout the development of conscious life the understanding of our experiences is an integral part of the way in which we *have* them. It is true that the primitive import of sensation is quickly discarded or fundamentally modified. But this is what we should expect. Experience does not at once attain the level of its inherent necessity. In speaking of the legitimacy of an original complication, and in describing the acquisition of meaning as an original character of sensation we do not imply that the primitive meaning can claim special epistemological legitimacy.

There is need to emphasize the difference between the primitive meaning and the residual meaning (got by elimination) for which peculiar validity was asked. In a way no two things could be more unlike. The former is the product of loose association in an experience as yet fluid and opaque; while the latter involves the discovery of a limit in the flux of experience by an act of reflective analysis. The stripping off of interpretative elements is in itself an act of interpretation of a very precise order, differing from scientific procedure, not in the exactitude at which it aims, but in the fact that it seeks to terminate at the opposite pole of knowledge in the completeness of a uniquely individual existent rather than in a completely idealized representation.[1]

If language is wanted in which further to define the condition of knowledge at the presentational pole of knowability, it will be found in some such expression as 'a luminous whole of intuition'—the idea being that the presented and the interpretative factors constitute a unity which is not that of association but of necessary implication, and which, upon examination, will reveal itself as a condition of the presentation. What in any experience we are entitled to suppose we know, is the meaning which we see cannot be denied of the presentation without destroying the experience itself.

When we turn to the opposite pole of knowledge we are confronted with a significant difference—the absence of the experiential factor;[2] and just as the danger before was that the condition of knowledge as stated seemed to carry with it the excessive elimination of import, so here the difficulty is that the presentational element on which such stress has been laid is almost or

[1] Of course the interpretative act, which must here be retrospective, is not to be confused with that which gives us the ideo-presentational complex in the first instance. Rather it is an act of interpretation brought to bear upon a prior interpretation, and it reveals to us on reflection the limit of assured legitimacy within the original interpretation of the content actually presented.

[2] It is not meant to deny experience in every sense to such knowledge, but only in the sense appropriate to the type of knowledge previously considered. Doubtless there is a sense in which we can intelligibly maintain an experience of mathematical or religious truth—two somewhat different cases. But while Mr. Hocking is right in insisting that the knowledge of God is matter of experience and must be of the same 'literal' character as an experience of sense, it is in the *literalness* rather than in the *character* of the experience that the identity lies.

altogether wanting. In the one case the presence and in the other the absence of this element is taken to have all the significance of a differentia. How then, it will be asked, can we hope in this way to obtain a uniform conception of knowledge?

In answer to the question it must be pointed out that the assumption has all along been that of a double character in knowledge. This of itself calls for a difference in the conditions; and if the difference implied is the presence or absence of experiential actuality, then it falls within the concept and brings us back to our previous position that knowledge must be defined so as to include the difference of the scientific and the non-scientific.

Beneath the apparent opposition between the two forms there is evident a close similarity. In each case the condition of validity is the resolution of a conflict or incommensurability between experiential and ideational or ideal elements; for we may assert of the validity of mathematics that it too depends upon elimination, resulting in a 'luminous whole of intuition.' Only the term intuition has no shade of sensuous connotation. It is not on that account unsuitable; and perhaps no language better expresses the common epistemological significance of the two cases than when we say that in the one instance we know a thing because we *see* it, while in the other we know a set of ideally exact relations to hold because we *see that* it must be so.[1]

We have therefore reached a formulation of knowledge which, though highly general, will hold of each of the extremes involved. It is not claimed that it is free from difficulties or defects. For one thing it is both narrow and negative, applying as it does only to extreme instances, and these perhaps the most artificial forms of knowledge, and availing itself chiefly of elimination in the establishment of validity. Surely, it will be said, elimination is the least of the factors involved. Moreover, what becomes of the vast world of knowledge represented in the practical judg-

[1] The Greek word *θεωρία* in its divergent senses contains the element of meaning common to an intuition dependent upon the presence and one dependent upon the absence of the sensational concomitant; and we may claim the full connotation of the term for our definition of epistemological validity as that form of validity which is essentially *theoretical*.

ments and generalizations of experience and in the body of the sciences outside mathematics and the mathematical disciplines? Do these conform to the type represented in the phrase 'a luminous whole of intuition'? Where do they find their place in the universe of knowledge? The latter has been represented as bi-polar, with experience (apparently in a highly sublimated form) at one end and mathematics at the other. Are the remaining forms (constituting the great bulk of our knowledge) variously located between these extremes? Or must we conceive their relation to the extremes in some other way? Must we in the end deny them a place in knowledge altogether? In any case will this description in the long run hold; and can we reasonably look upon mathematics and experience, so far as knowledge is involved in both, as polar opposites?

It is impossible here to attempt a circumstantial answer to these questions. But two propositions may be laid down. These are involved in any answer given, and they will serve to indicate the lines which further inquiry would necessarily take. In the first place, whether or not it be clear that the present formulation of knowledge is adequate to cover all cases, it certainly seems to bring within the pale of possibly knowable truth provinces of experience and the conscious life which other theories have been content to relegate to the unknowable, but which in other respects than that of strict epistemological validity appear to contain the key to the chief questions of existence. One more reference to Kant's difficulty will help to make this clear. Kant excludes the whole realm of religious and ethical truth from the conditions of strict knowability. In the sense defined in the *Critique of Pure Reason* I can know neither myself (as a free agent) nor God nor yet the relations which hold of such beings in a realm of freedom. The reason for this is that these entities when considered from the standpoint of their knowability are found to belong to the region of metaphysical speculation, where nothing can really be known because the condition of experiential verification is wanting. If however the experiential condition (in the narrow sense here required) is no longer considered a differentia of knowledge as such, but only of a

specific kind of knowledge, then the door is opened for the inclusion of a universe of profoundly significant meanings among subjects of possible cognition. Nor does the removal of the experiential qualification imply the relegation of known religious and ethical truth to a realm remote from the concrete interests of life. The connection between the presentational and ideational types of knowledge is not denied; but certain inadequate ways of postulating the connection have been discredited; and certainly nowhere more than in the realm of spiritual realities is there a persistent demand for a restatement of the relationship between the ideal and the actualities of experience—a restatement which will have to begin with a critical dissociation of the two. Neither religion nor morality can ultimately suffer from anything that counteracts the overwhelming tendency in human nature to identify the ideal concepts and demands of both with the gross actualities of history and historical evolution; and if we are compelled to give up this crude identification bit by bit, it is sure to be for the eventual good of the interests involved. A set of ideas which seem for ever to evade the actuality of our human lives is not lost to us so long as these ideas retain at least their critical power; and as in the parallel case of the opposite poles of knowledge, our ultimate problem may be to discover the nature of this connection and render it of practical effect. Altogether it may prove a great gain to us that God is not visible to human eyes[1] and that freedom is not among the physical and physically apprehensible conditions of our existence. In this very circumstance may lie not only the spiritual significance but the knowability of both. The ideal qualification which experience and the things of experience reject may be accepted by that which transcends the limit and the content of experience; although if language is needed to express the manner in which such knowledge actualizes itself in consciousness, no other expressions will be found so appropriate or so intelligible as 'experience' itself —an experience, however, from which the sense reference has been (artificially, if need be) removed; and if the transcendence of experience (in the narrower sense) does not

[1] Note the Hebrew insistence on the religious value of the idea of an unseen God.

render truth unknowable in the sphere of mathematical science, there seems no reason why it should do so in other spheres. Thus beyond the convictions of superstition or of faith there may be reserved for the religious and moral intuitions a guarantee of knowability as certain as anything can be. Here as elsewhere the condition will lie in the possibility of the intuitions becoming 'luminous'—that is, attaining a mental expression in which import and necessity shall be found inextricably implicated—the case of *θεωρία*.

The second proposition to be laid down is a statement (really a restatement) of principle. The question of knowledge in the end is the question of validity; and if the formulation of this seems to endanger a large part of what we commonly suppose to be knowledge, we must be prepared to accept such a contingency. Outside of radical empiricism it would perhaps be difficult to formulate the idea of validity with any degree of strictness without appearing to limit the range of the reality known. And this is natural, since epistemology involves a critical examination of knowledge. We should hardly expect the whole body of the latter to pass unchallenged. The probability is (it seems reasonable to suppose) that until knowledge is clearly defined it will be confused with other things, and consequently that the sum-total of the strictly known will ordinarily be less than is thought. In the present case, however, it is by no means certain that the range of knowledge need be unduly restricted by the criterion. Indeed, the peculiarity of the latter is that it gives promise of including in a single formula the most diverse kinds of knowledge. In the two forms that have been chosen for special consideration, the particular knowledge of sense experience and mathematical knowledge, the condition of validity can be more forcibly demonstrated because it rests upon a limiting case; but the common formula which emerges does not necessitate the presence of a limit. All that is demanded is a certain equivalence of subject and predicate, which can be placed in such a light that it becomes transparent. The uniqueness of sense experience on the one hand and the purely ideal character of mathematical truth on the other furnish the condition of such a transparent

equivalence. But when we come to the wider generalizations of experience and to the empirical sciences, working with hypotheses, it is not so easy to realize the required condition. In these cases, however, we do not claim the same completeness of assurance that characterizes the limiting instances. Knowledge becomes more problematical. Yet if we consider the ideals which control it and in which it strives to terminate, these will be seen to involve the self-same formula of validity which is the guarantee of knowledge in the spheres of mathematics and of actual experience. The peculiar difficulty arises from the fact that while the aim is a relation of equivalence between the data of experience and certain universal formulae, the conditions of the case do not permit the free use of the method by elimination. We are here, generally speaking, forbidden to *prepare* our subject-matter specially with a view to validity, and are compelled to reach out equally to the two divergent poles of knowledge.

These statements, however, must be seriously modified in the direction of our formula. We must give due weight to the difference of ideality, so to speak—a difference both of range and quality—to be found among the different sciences and in the same science at different levels of development. At the level of empirical generalization the universality which we predicate is not badly apportioned to the object. For the universality of repetition has significance only where a more explicit form of ideality is not available—that is, where the data are as yet crude and obscure—and therefore makes less exacting demands upon the data than any form of ideality. Of course the empirical generalization is highly precarious; but where advancing knowledge explodes previous generalizations what happens is not merely that the equilibration of the interpretative and experiential elements has been upset, but that fresh experience has revealed new characters in the data, thus leading to a deeper interpretation and one more in consonance with the facts as now known. At the lower level of generalization, however, it must be agreed, we do find a kind of equivalence between the experiential factor, which is here less precise than in the unqualified individual experience, and the interpretative, which, as implying

merely repetition, is only slightly significant. The conditions of knowledge are therefore not wanting even on the present formulation, based upon the extreme instances of mathematics and non-generalized experience. And from the point of view of strict validity we should say of this approximation to knowledge that it represents a phase in which the individual experience abandons the shelter that legitimacy derives from uniqueness—but only so far as to seek shelter in a succession of precisely similar individual experiences.

Of even more significance is the fact that the advance in knowledge which succeeds the stage of empirical generalization reproduces the very feature—elimination—in which we have sought the means of reaching a guarantee of validity. In the two limiting cases we remove opposite factors, on the one hand excess of interpretation, on the other the inexact element of sense. But here the process of elimination proceeds simultaneously from both ends and involves at once the sorting out of instances and a more exacting determination of import. Thus once more there is the same endeavor to find the conditions of a transparency between the two factors. And when we come to experiment, what we have is a superlative instance of double elimination, resulting in the paradox of an a priori, ideal determination of actually given presentational elements. The significance of universality is subordinated to the exact specification of character in a way that begins to suggest the even completer idealization of mathematical science.

The same significance appears to attach to elimination when we consider knowledge in another aspect—the aspect, viz., in which it has to do with the division of the sciences and the discovery of the principles which constitute a secure basis for scientific progress. Here again of course the mathematical sciences represent the limiting instance; but what is more to the point is the fact that the principle seems to hold of the concrete sciences as well. The scientific superiority of the Darwinian over earlier forms of evolutionary theory consists in the exactitude with which Darwin succeeds in eliminating excessive hypotheses. It is a case of successful abstraction; and the effect

is at once enormous empirical verification and great precision of principle—the two features that mark off the limits of genuine knowledge.[1]

In conclusion some remark is called for in mitigation of a difficulty arising out of the designation of knowledge in terms of validity rather than of completeness or degree of adequacy. Validity appears to be too absolute a criterion—perhaps an abstract ideal—resting as it does upon the hard antithesis of right and wrong—known and unknown. Now it is not the intention here to deny a very genuine and significant meaning to the notion of degrees of knowledge. Of this the rejection of the Platonic tendency to identify knowledge in the true sense with its scientific form is evidence enough. On the other hand, it seemed necessary that, once the non-scientific was admitted to a legitimate place in the realm of knowledge, the significance of the admission should not be weakened by the refusal to accord such knowledge independent worth. In other words it was thought essential that the non-scientific, if it contained the element of knowledge at all, should be shown to have its own intrinsic validity. This position is, moreover, advanced partly by way of a prophylactic against what may be designated the over-easy epistemological tendency in certain phases of idealistic thought. The wholesale handling of the problem as altogether a matter of degree contains its dangers, because it seems to ask far too little as a condition of knowability. And when this is conjoined to the tendency to designate the universe of knowledge, thus generously interpreted, in terms of the scientific,[2] the danger amounts to no less than that in which as a matter of fact it really issues—viz. the complete stultification of the epistemological problem. On such grounds as these the criterion of knowledge was sought in the first place in the absolute concept of validity.

[1] The remark on the Darwinian hypothesis is inspired by Norman Kemp Smith—although of course he is not to be held in any degree responsible for the application. So far as I can see the truth involved is not materially affected by H. de Vries's significant but narrowly directed modification of the Darwinian hypothesis.

[2] It is true that Hegel cannot fairly be accused of any want of vigor in enforcing the distinction of the scientific and the non-scientific or of truth and falsehood as based on these. The difficulty is in rendering the distinction, as formulated, effective in an epistemological sense.

If, however, after all has been said, it is thought that a large proportion of what we ordinarily, and not without reason, consider knowledge is bound to escape the limits of such a narrow and categorical formulation, the following suggestion is offered as in some degree meeting the spiritual demands of the situation. There are large and indefinite provinces of experience and thought, chiefly between the actual and the ideal, where we move with the same assurance and sense of significance which we feel in the case of perfectly accredited knowledge. And yet it is just here that the validity of our assumption in any exact epistemological sense is most difficult to establish. If this is so, however, the proper course, it is urged, is not to throw over the idea of such a criterion and to obscure the problem of knowledge as such with extraneous considerations, pragmatic or other, but to acknowledge that there are convictions and forms of insight which may be of the deepest significance, and yet for which we cannot strictly claim the character of knowledge. Knowledge and meaning are not necessarily co-terminous, and meaning does not necessarily disappear because knowledge is impossible. In some cases, there is reason to think, such meaning is proleptic in its force, anticipating and symbolizing results which knowledge may yet make good. From the practical point of view too it is important that we should not mistake the character and extent of our spiritual accomplishments. Great as is the dynamic value of the positive element involved in the 'als ob' attitude, it must not be forgotten that the 'als ob' rests upon an acknowledgment of limitation, and that such self-conscious limitation must necessarily enter as a constituent into the quality of the resulting activity.

The separation of meaning and knowledge cannot, however, be carried too far. And just as in experience, whenever experience is found, there must be somewhere an element of knowledge, so, we may say, the very fact of meaning is symptomatic of knowledge somewhere. This it may be possible to analyze out of the meaning, as it is possible by elimination to isolate the element of knowledge in even an obscure and unintelligible experience. But apart from such a possibility the significant complex in itself

may frequently in such cases be characterized with entire accuracy, if not as knowledge, at least as *cognitive value*. Too great stress cannot be laid upon this idea, which deserves to be worked out exactly in connection with the problem of knowledge. Outside the realm of our knowledge, if this be strictly determined, there exist innumerable judgments, convictions, views, which, whether containing the germ of knowledge or not, possess its reaction value and a validity of their own, as well-assured at least as the validity of many unchallenged ethical and aesthetic judgments.

A possibility that deserves to be considered is that judgments of the sort may really in the end belong to a category of knowledge which has not been formulated. Scientific character they probably cannot have. But a place has been found for the non-scientific within the concept of knowledge; and we may ask: If there is room in knowledge for the distinction of the scientific and the non-scientific, might not the latter in turn prove itself capable of including certain clearly determinable distinctions which would stand for categories of knowledge? These categories would of course be in the nature of a general set of conditions or universes of discourse, in the sense of general conceptual determinations under which different types of epistemological validity might be secured. For instance, nothing is at present more difficult than to find an exact epistemological designation for the practical insight which is capable of such a high degree of development but is devoid of definite scientific character. In this province the *practical* validity of judgments is far in excess of their capacity for theoretical authentication. Perhaps it is the consciousness of this disproportion that in the end lies at the bottom of all attempts to seek an extra-epistemological criterion for knowledge. The difficulty may, however, really be that the correct category which would render a strict epistemological characterization possible has not been found. There may be a way, for instance, of formulating the proximate judgments of experience in relation to the general concept of practical purpose, which would satisfy not only the practical but the theoretical conditions of knowability. And similarly

with the larger judgments that deal with ultimate value and truth.

When we speak of the reaction value of such judgments, at any rate, it must not be supposed that the reference is only or mainly to their pragmatic importance. The value referred to is strictly epistemological, or at least it contains a strictly epistemological component. As already indicated, there are many phases of reality—the realm of spiritual and moral relationships, of the social and religious life, of the ultimate judgments and largest generalizations of experience—where the deepest certainty is inextricably interfused with the profoundest obscurity. The Platonic myths, explicitly combining the sense of a necessity somewhere with the sense of unsolved enigma, are perhaps the most self-conscious literary expression of this phase of truth.[1]

In view of our general position the following would seem in some measure to indicate the lines on which an explanation would proceed. In the two limiting cases chiefly dealt with, it was required on the one hand to relinquish certain elements of ideal qualification in order to maintain the integrity of a presentational whole, on the other to relinquish a supposed presentational equivalent for the sake of completeness in the ideal qualification. Here, in contradistinction to both cases, we find a significant content too ideal for presentation in any known type of sense equivalent, and at the same time not of the kind which, as in the case of mathematical entities, compensates in exactitude for the loss of presentational character. Elimination must therefore, as in the advance from empirical generalization to better grounded truth, proceed from both extremes—the two opposite dangers, in the case of religion, for example, being anthropomorphism and nature-worship at the one end and theology at the other. The question will be asked whether this double elimination leaves anything knowable standing; to which the

[1] Cf., e. g., Socrates's words at the end of the myth in the *Phædo: τὸ μὲν οὖν ταῦτα διισχυρίσασθαι οὕτως ἔχειν, ὡς ἐγὼ διελήλυθα, οὐ πρέπει νοῦν ἔχοντι ἀνδρί· ὅτι μέντοι ἢ ταῦτ' ἐστὶν ἢ τοιαῦτ' ἄττα περὶ τὰς ψυχὰς ἡμῶν καὶ τὰς οἰκήσεις, ἐπείπερ ἀθάνατόν γε ἡ ψυχὴ φαίνεται σῦσα, τοῦτο καὶ πρέπειν μοι δοκεῖ καὶ ἄξιον κινδυνεῦσαι διομένῳ σῦτως ἔχειν· καλὸς γὰρ ὁ κίνδυνος· κὰι χρὴ τὰ τοιαῦτα ὥσπερ ἐπᾴδειν ἑαυτῷ, διὸ δὴ ἔγωγε καὶ πάλαι μηκύνω τὸν μῦθον.*

answer is: (1) that there must be knowledge of some sort involved if we know that the elimination is necessary, and (2) that the element of meaning remains a genuinely significant factor in our spiritual lives, not exhausted by any practical import it may contain, and sustained by something which, although it wants the presentational factor, we are bound to designate experience. Here then there seems to open up the possibility of establishing the equivalence which we have made a crucial condition of knowledge. In place of the ideal character of mathematical relations we have the ideal character implied in spiritual norms, and in place of the presentational equivalent we have a possible equivalent in an experience of a different order. We refrain, however, from designating as knowledge the knowability implied in this, confining ourselves to the term 'cognitive value' —and for the following two reasons.

First, it seems a warrantable assumption that the sum-total of what we generally claim as knowledge is much in excess of what a strict examination would authenticate. It is sound policy therefore to restrict rather than to enlarge the conditions under which we admit the claim of judgments to validity. In the second place, it is not clear that even in the experience which we call spiritual in order to distinguish it from the experience of sense, there ever is the equivalence of elements which we find in a presentation or in a mathematical demonstration. Our spiritual experiences may contain a *reference* to realities beyond themselves: it is doubtful whether we can so determine the actuality of the spiritual situation as to say that it *means* the latter. The relation here is analogous to a relation which, in narrowing down the conditions of knowledge, we have viewed chiefly on its negative side—that, viz., between the sphere of actual sense experience as a whole and mathematical truth. In order to determine the exact amount of knowledge to be expected from both of these it was found necessary to hold them apart. But there is a positive side to their relationship as well. Although the ideal character of mathematical truth cannot enter into the content of the sense object as actually presented, the latter undoubtedly contains a *reference* to the former, just as the

former is able to employ the latter as a symbolism or notation. It is in the sphere of such relationships that we meet with cognitive values; and they entitle us, as Plato realized, to the almost indefinite use of symbolism. The reservations which Plato constantly makes with respect to the literal acceptation of particulars in the imagery of his myths may be regarded as an application of the principle of elimination.

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A FAITH PHILOSOPHER OF THE EIGHTEENTH CENTURY.

ALTHOUGH for some years now it has been proper and safe to refer to 'present philosophical tendencies' without further characterization, it is well to remind ourselves at times that these tendencies have been present before, roused by conditions in the past similar to those which have to-day produced our philosophies of revolt, anti-intellectualism, super-naturalism and neo-realism. Even in the eighteenth century, age of reason though it was, are to be heard here and there voices raised in protest against monism, naturalism, rationalism, atheism, against all the interpretations of life which seem to ignore its instinctive values and to threaten its belief in the significance of the personal will. There is the same uneasy jealousy of reason, the same trust in instinctive beliefs, the same eagerness for the real, the same preaching of faith, the same delight in emotion, the same love of the individual and, for the most part, the same disinclination for precise definition. Then, as now, the man cursed with the combination of vigorous vitality and acute logic shrank from his threatened submergence in the ocean of the Absolute and voiced his deep distrust of the philosophic method that would thus deprive him of his identity. It was the protest of the man of action and feeling against the theory of the man of thought, and then, as now, it found ready response among the men of common sense whose voice it was. It is true there was no William James to bait the intellectuals, but there was a Friedrich Heinrich Jacobi to test their philosophic patience.

Separated by a century, as were these two men, and different as they were in certain external respects, there were yet points of fundamental likeness between them. Neither was a systematically constructive thinker; but for both there were certain fixed beliefs passionately held and defended through life against all comers, beliefs not so much the result of their philosophizing as determinative of it. Both were non-academic in their type

of thought and impatient of the philosophy of the schools, Jacobi, indeed, never having held a university position and retaining throughout life the free mobility of the amateur. Both were men not merely of religious temper but with critical insight into the implications of religion and the ability to estimate truly the worth of its professed philosophic defenses. As James in our own times worked for the divorce of absolutism and religion, so Jacobi in the closing decades of the eighteenth century and the opening years of the nineteenth, labored to expose the religious insignificance of the changing forms of the idealism of his day and to substitute faith for knowledge. The God of Spinoza was for him no God, the faith of Kant seemed without foundation, and the absolutism of Fichte only an inverted and more consistent Spinozism. A system which found no place in the world for freedom and purpose was for Jacobi atheistic, whatever might be the honorary title granted to its fundamental reality. Natural forces command no moral respect and a universe without purpose is no possible object of worship. That a religious view of the world, however, can be attained by the logical processes of the understanding, Jacobi profoundly disbelieves. "It is the interest of science that there be no God."[1] Between the natural and spiritual worlds there is a great gulf fixed, not to be bridged by logical demonstration, but to be crossed only by the *salto mortale* of him who wills to believe in the ideals which constitute his moral life. Were it not for his perfervid rhetoric one might almost seem to hear the voice of James in these passionate appeals of his Latinized namesake, pleading in the age of enlightenment for the legitimacy of belief.

But there are kinds of faith philosophers, and to define as clearly as possible Jacobi's view of the nature and grounds of his faith is the object of this paper. The task is not altogether an easy one in spite of the limited range of his thought, for his works have the characteristics of polemical orations, and his idea clothes itself in changing forms of expression determined by the successive controversies of his literary life. He learned from every opponent, and it is not till his last preface that he realizes

[1] *Werke*, III, 384.

clearly the position for which he has fought. It will be necessary therefore to look briefly at his life and writings before attempting to formulate his beliefs.

Jacobi was born in 1743 at Düsseldorf, at a time when Count Zinzendorf was organizing the *Herrnhüter* and giving new life to the pietistic movement. His mother died soon after his birth and he was brought up under the care of a pious maid servant who fostered in him from the first her own emotional type of religion, so that it was but natural that he should early attach himself to a pietistic sect known as *die Feinen.* But though these early religious experiences were determinative of his life mood, Jacobi was not a thoughtless enthusiast: he was even in his boyhood passionately interested in philosophy, though apparently, in the judgment of his instructors, unfitted for its pursuit. Even as early as this his realistic predisposition seems to have asserted itself, for he could make nothing of purely abstract concepts, everything must be reducible to the concrete and evaluated in terms of the real. He says of himself, "So long as I can remember it has been characteristic of me that I could make use of no concept whose outer or inner object was not perceptible through sensation or feeling."[1] Such an insistence upon philosophic cash necessarily made his progress slow and his future doubtful in the eyes of those who were accustomed to do a large business upon a conceptual credit basis. Fortunately he was not discouraged permanently, for, his father recognizing his uselessness in business, wisely allowed him to go to Geneva when seventeen years old, and pursue his studies there.

Already dissatisfied with the prevailing eclectic rationalism of Germany, two years of study in Geneva devoted almost exclusively to the French, and probably to the English, sensationalists, served to deepen Jacobi's conviction that the only method for the attainment of truth in either science or religion was the empirical. Both nature and the supernatural presented themselves immediately in experience and the facts of both worlds must in first instance be given through perception. Relations of ideas may be capable of demonstration, but not so matters of

[1] *Werke,* II, 178.

fact. But while Jacobi was a pretty thoroughly convinced empiricist before he was out of his teens, it was not until he came in contact with Kant's writings that he became wholly clear as to the grounds of the rationalistic position and his own relation to it. The year of his return to Germany, 1763, was the year of the Berlin Academy's prize contest on the evidence of metaphysical knowledge. Mendelssohn's successful essay roused his wonder that so celebrated a man could be contented with the old rationalistic proofs of the existence of God, and he was so much the more delighted with Kant's rejected paper which gave him his first clue to what he calls his own "*Ungelehrigkeit.*"[1] A thorough study of Spinoza revealed to him more fully the possibilities and limitations of the rationalistic position, or, as he puts it, "for what God 'the Cartesian proof' is valid and for what it is not."[2] About this same time the reading of Kant's "Einzig mögliche Beweisgrund" produced such joyful palpitation of the heart that he had to interrupt himself several times to secure the calmness necessary for attention.

It was a dozen years before he published his first works, his philosophical romances, *Waldemar* and *Allwill's Briefsammlung*, for his progress was slow. As he says himself, "I needed weeks where others needed only hours; months where they needed days, and years where they needed but months."[3] He was a great reader and his works are filled with citations from both ancient and modern philosophy as well as from the scholastics. Of the moderns he was most careful to define his position relative to Leibniz, whose spiritualistic individualism he shares, but he was also familiar with even the minor writers, especially the moralists, in England and Scotland. Just when he came to know Reid's work is uncertain but it was probably after his own realistic theory of knowledge had begun to take shape.

Aside from his philosophical romances which, while characteristic, are also extremely tedious and inconclusive, Jacobi's first notable work was his *Ueber die Lehre des Spinoza*, first published in 1785, revised and enlarged in 1789. It was this work which roused the controversy that called forth his next book, *David*

[1] *Werke*, p. 184. [2] *Ibid.*, p. 188. [3] *Ibid.*, p. 192.

Hume über den Glauben, oder Idealismus und Realismus, and started him on the controversial career which ended only with his death. And it is as a critic and controversialist, almost as a sceptic, that Jacobi is best and rightly known. Spinoza, Kant, Fichte, Schelling are in turn the objects of his attack and though his interpretation of their doctrine is not infallible, there are few of the classic criticisms of their systems which he does not bring forward. His own offering is, as he often calls it, a *Nichts-Philosophie*, an appeal from the court of the reflective understanding to the moral instincts of a sound human nature.

The occasion of this first work was a bit of philosophic gossip, the carrying of the report to Mendelssohn that Jacobi had said that Lessing was a Spinozist. As Mendelssohn was preparing a memorial of Lessing and had no suspicion that he had held such opinions, he took the liberty of doubting the significance of Jacobi's assertion, and implied that the latter had failed to understand Spinoza's real doctrine. Jacobi's defence of his statement took the form not only of a detailed report of his own conversations with Lessing but of an exposition of Spinozism and its implications. He states the significance of his work in a preface written just before his death: "My *Briefe über die Lehre des Spinoza* were not written in order to refute one system by another, but to show the invincibility of Spinozism from the side of the logical understanding and to prove that the procedure by which the end of this science was attained, *i. e.*, that there was no God, was logically correct. It was not to be refuted upon logical grounds. Spinozism is atheism."[1] Jacobi is perfectly ready to admit that Spinozism "denies, not so much the existence of a God, as the existence of an actual and real world," but this he holds to be a mere matter of words. What is significant for him is that there is no distinction between God and the world and that instead of a free, purposeful creation Spinoza gives us only a "self-subsisting Nature producing out of its own womb, without will, an infinity of phenomena without beginning and without end"[2]—a mere fertility, to use the words of Kant. But "the presupposition of an unconditioned, an undetermined,

[1] *Werke*, IV′, p. xxxvii.

[2] *Ibid.*, p. xxxiv

whole and the presupposition of God are far from the same, and we attain to one or the other by wholly different ways." If we insist upon satisfying a purely theoretical interest in explanation and deducing everything from its logical ground, seeing the one in the many, there is no other solution than that of Spinoza: his ἓν καὶ πᾶν is the last word of a consistent theoretical philosophy. The thirst for explanation will be satisfied by nothing less than this geometrically conceived universe in which all the parts are as necessarily determined as the characteristics of a triangle. A God whose relation to the world is not determinable, a finite individual whose deeds are not the necessary results of the deeds of other finite individuals, a life whose end is not within the sphere open to knowledge—these are facts for which there can be no place in the world as ideally constructed for thought. A world in which such facts had place would be an indeterminate world, a world of miracle, a world where the supernatural might at any time intrude upon the natural and set at naught the demonstrations of knowledge: it would, in short, be a world only to a limited extent knowable and not the tractable world of an all knowing philosophy.

So appreciative was Jacobi's exposition of Spinozism in his conversation with Lessing that the latter was prepared to find him in agreement with his own confession of faith, but such was far from Jacobi's thought. "I believe in an intelligent, personal Cause of the world,"[1] was his creed. He was first and always a theist and it is not the least of his virtues that he at all times consistently refused to accept a stone, no matter how cunningly painted, for bread. He was perfectly clear as to what he, as a religious and moral man, demanded of the universe, and if the universe failed to offer satisfaction to these demands Jacobi had no intention of deceiving himself into a false contentment with the situation. It might be that the intellect could find nothing but an eternally complete world in which nothing happened and nothing was out of place; but if so, the intellect was thereby convicted of incompetence, for there was a world of values incapable of inclusion in this logically adequate scheme, with which the head might be satisfied but never the heart.

[1] *Werke*, p. 59.

To Lessing's astonishment, therefore, as well as to that of Mendelssohn later, Jacobi appeals from the head to the heart and asserts the legitimacy and supremacy of faith (*Glaube*): realities whose existence the intellect cannot prove may, and must, be acceptable upon the evidence of feeling. It was to support this assertion and to justify his use of the term faith against the outcries of his critics accusing him of an appeal to authority, that he published the most significant and carefully reasoned of his works, *David Hume über den Glauben*, in which he cites the testimony of the Scotch sceptic, certainly unprejudiced in favor of authority, that belief or faith is the basis both of knowledge and action. Such belief is not 'blind' in the sense of being an uncritical acceptance of authority but only as not resting upon more ultimate grounds. Our acceptance of an external world is of this character, as Jacobi shows by liberal quotations from Hume's *Enquiry:* "It seems evident, that men are carried by a natural instinct or preposesssion to repose faith in their senses; and that, without any reasoning, or even almost before the use of reason, we always suppose an external universe, which depends not on our perception, but would exist though we and every sensible creature were absent or annihilated."[1] "It follows, therefore, that the difference between fiction and belief lies in some sentiment or feeling, which is annexed to the latter, not to the former and which depends not on the will, nor can be commanded at pleasure." "Belief is nothing but a more vivid, lively, forcible, firm, steady conception of an object, than what the imagination is ever able to attain." "And in philosophy we can go no farther than assert that belief is something felt by the mind, which distinguishes the ideas of the judgment from the fictions of the imagination. It gives them more weight and influence; makes them appear of greater importance, inforces them in the mind; and renders them the governing principle of our actions."[2]

In this empiricism and scepticism of Hume, Jacobi finds strong support. If the reality of even the external world is beyond proof and guaranteed only by this instinctive feeling,

[1] Hume's *Enquiry*, Sect. XII. [2] *Ibid.*, Sect. V.

why should one expect that such supersensible realities as God and a free will should be capable of proof? What more fitting phrase can we use for our attitude toward these than to say that they are objects of belief? Indeed, are we not also justified in speaking of them as "revelations" and even as "miraculous revelations" (*wunderbare Offenbarungen*), since we have no proof of their reality save their actual presence to us, the possibility of which we seem in no natural manner able to explain?

It is in this same work, and as a development of Hume's doctrine of belief, that Jacobi propounds his theory of natural realism, another of his foreshadowings of present day tendencies. It is true that his formulation of the theory is not wholly unambiguous, but the same might be said without fear of contradiction of the formulas of some of our neo-realists. Nor is his elaboration of details and consideration of objections adequate, but in spite of these defects he has a masterly grasp of the general logic of the situation and a sure feeling for the issues involved. If we are to have an independent world of things these must be given us immediately and not representatively through mental states. We must be brought face to face with them and know them in their crude, extra-ideal nature. If we begin with ideas we end with ideas and our knowledge is a play with subjective symbols. But a passionate lover of reality and life like Jacobi will not have it so. He will not be shut in with himself and his ideas; he must transcend himself and gain contact with a world not dependent upon his perception for either its existence or its nature. How it is possible for things to enter consciousness and be immediately known, Jacobi cannot explain, it is a miracle, but that they are thus present to us is one of his fundamental articles of faith.

While Jacobi preaches vigorously his doctrine of realism in this early work it is only with the publication of Kant's critical philosophy that his thought takes on more precise definition. With Kant's ultimate aim, the discrediting of the rationalistic metaphysics and theology of the day in the interest of a practical faith, Jacobi was naturally in hearty accord, seeing, indeed, in Kant's work in this direction his highest claim to distinction.

Never again, since the publication of the *Critique of Pure Reason*, ought one to be imposed upon by the pretensions of the understanding to the attainment of a knowledge of the supersensible and eternal. Once and for all it had been shown that knowledge, strictly so called, is limited to the world of sense perception. About this world, which we call nature, we can make universal and necessary statements which in systematic form constitute our sciences, but about God, freedom and immortality, objects not perceptible by the senses, we can have no knowledge either as to their reality or non-reality.

But with Kant's half hearted idealism Jacobi is far from satisfied, as he indicates in an appendix to his *David Hume*, entitled *Ueber den Transcendentalen Idealismus*, and also in a general introduction to his writings contained in the second volume of his collected works. Of the essential subjectivity of the Kantian philosophy Jacobi was perfectly assured. His own realism stands out most distinctly in contrast with the presupposition which he finds to be the cardinal principle of such subjective systems. "At the basis of all idealism there lies the argument that the matter of our ideas can only be sensation, a modification of ourselves, since it is quite impossible that independent objects existing outside us should move into the soul through eye, ear and feeling hand, like furniture into a room, or that their qualities should walk over into our faculty of ideas."[1] And again he writes that Kant's teaching is "that man receives through his senses only ideas which *may* indeed be related to objects independent of these ideas and really present, but which contain absolutely nothing of the objects themselves independent of the ideas."[2] Such a doctrine as this is a denial of the fact of real perception and a final restriction of knowledge to the field of consciousness.[3]

That in spite of this subjective starting point Kant should still assume the reality of independent things as causes of our

[1] II, p. 39.

[2] *Ibid.*, p. 34.

[3] It is interesting to compare Jacobi's whole critique of the Kantian philosophy with the corresponding attitude of the new realists as in Perry's *Present Philosophical Tendencies*, chs. vi and vii.

experience, introduced into the heart of his system an amazing contradiction which Jacobi was the earliest to point out, formulating it in his epigrammatic confession that "without the presupposition [of things in themselves affecting the senses] I could not enter the system and with that presupposition I could not stay in it."[1] For him the only consistent Kantianism must be a subjective idealism, and he hailed Fichte as the true Messiah of philosophy, of which Kant was only the Baptist.

It is this idealism, however, which, as Jacobi sees it, cuts the ground from under Kant's practical faith. If it is denied that sense perception reveals an independent world and our instinctive trust in the senses is thus discredited, it becomes impossible to put implicit faith in the intuitions of the reason revealing God, freedom and immortality. These, too, become subjective and we lose all contact with an other than ourselves, either physical or supersensible. And since *ohne Du, kein Ich*, with the dissolving of the not-self, the self also vanishes and we are left with an absolute *Nichts*. Such a nihilism he believes to be the only logical outcome of Fichte's absolute subjectivity, as of every non-dualistic philosophy, and to all such he opposes passionately his own doctrine, as he calls it, of absolute objectivity. The glory of man is not in his independence and self completeness, but in his relation to an other, and his supreme faculty is not that of logical reasoning but of vision.

The consequences of the new idealism and the necessity for a dualistic faith philosophy, Jacobi expounds in his open "Letter to Fichte" and his rather rambling discourse "On Divine Things and Their Revelation," contained in the third volume of his works. Turning from these controversial writings, however, which mark no new development of his thought, and attempting to formulate his doctrine of faith, we find three questions which it is necessary to ask concerning it. What are the objects of faith? What is the faith process? What is the nature of the certainty of faith?

We are apt to think of faith as a religious act directed upon the fundamental realities of the spiritual life, but, as we have

[1] II, p. 304.

seen, Jacobi refuses so to narrow its sphere. It is true that his faith philosophy began in his religious experience, in his attempt to understand his "innate worship of an unknown God," but his inquiry soon convinced him that the principle of faith involved in religion underlay the whole of life. "All reality, both the physical which reveals itself through the senses, and the spiritual which reveals itself through the reason, is certified (*bewährt*) to man by feeling; there is no other assurance beyond or above this." We 'believe' the existence of the table as we do the reality of God. Faith is the only means by which we can pass outside the circle of our own consciousness and lay hold upon a reality other than ourselves—indeed, even our own free personality is an object of faith, not knowledge. For, as Jacobi had come to learn from the idealists, we can know only that which we can construct according to concepts, that whose existence we can see arise in thought, and a reality not a thought reality but a real reality can therefore never be known. The real forever eludes thought. It must be given, revealed, received by faith, whether it be a table, a man, or a God.

The terms in which Jacobi comes to formulate the process and place of faith in life, are taken in later years from Kant. They were useful for some aspects of his thought but introduce confusion when applied to others. In his earlier writings he had conceived of knowledge as involving sense (*Sinn*) by which the data were given, and understanding (*Verstand* or *Vernunft*) by which these data were worked over into systematic concepts. But by these two faculties alone we can attain only a science of the natural world, since reason cannot invent new truth but must depend upon the data given it, and sense cannot transcend the physical world. And, in truth, even a knowledge of a real physical world is not possible through sense alone which can only present us with subjective sensations. Accordingly, Jacobi insists that in addition to these traditional faculties we must have a faculty of faith or feeling (*Glaubenskraft or Vermögen des Gefühls*) by which we both perceive the real physical object in and through its appearance to the senses, and also apprehend the existence of realities not visible to sense. Through the senses

I have a presentation of a table but only through feeling do I apprehend its objective existence.

A study of Kant's work causes him to alter his terminology as well as his conception somewhat. He now distinguishes between *Verstand* and *Vernunft*, limiting the former term to the faculty of discursive thought, and applying the latter to the sense of the supersensible. This gives him two intuitive faculties, sense for the physical world and reason for the supersensible world. These furnish the two orders of data from which the understanding constructs its knowledge of the two worlds. Kant had denied our possession of this intuitive reason while retaining his faith in the supersensible world, but Jacobi insists that without such an organ of spiritual vision the soul is incapable of apprehending truth. This higher world must come to us, must make its presence known, and the organ to which it appeals is the reason. "In true Platonic fashion I ascribe to the reason of every created being receptivity and spontaneity, as faculty of perception and apprehension, of finding and holding fast, which together are the original sources of rational truth. In every finite or sense being (for every finite being is necessarily a sense being) the reason is nothing but the sense for the supersensible. As the bodily sense is wholly positive and revealing, so also is the spiritual sense, the reason."[1] Our acceptance of the data from these two sources and the unreasoned assertion of their objectivity would seem to be what is meant by faith or *Glaube*, belief at first hand.

There are, however, some uncertainties and difficulties with this conception of faith and its relation to reason which Jacobi does not successfully remove. Reason is coordinate with sense, as intuitive of objects, and yet he also makes it the power by which even the objective reality of sense objects is known, the sole reality sense, which sees, not merely sense qualities, but the being or substance of them. This relation, as in the Platonic philosophy, remains vague.

Again, faith sometimes figures as a reaction to these presentations from these two sources or a feeling evoked by them, and

[1] III, 435.

sometimes as itself the rational faculty through which the presentations come. In *David Hume* that writer's analysis of belief as a peculiar feeling is accepted, but in his later works it is identified with reason itself. His uncertainties on this point illustrate well the prevalent haziness at that time of the psychology of volition.

Call it faith or call it reason, however, more serious for his theory is his failure to make clear just what this 'sense for the supersensible' reveals and how it works. In the first place, he is sure, at least, that faith is not a mere matter of desperation—the blind assertion of an Absolute even though reflection seems to reveal only its absence. It is not a blind leap in the dark. Neither is it the expression of a longing for a Supreme Being which presents it to the reason ideally rather than as a reality. The Absolute is not a creation of our desires. On the contrary, the desire for an object presupposes an experience of it and unless God were known he could not be sought. There must therefore lie at the root of our longing some perception of the spiritual reality we seek. Jacobi is not clear as to the character of this perception. In particular he fails to explain whether he conceives it as psychologically simple and without a history, an innate idea in the cruder sense of the term, or whether he regards it as only logically ultimate and without further ground. Following the analogy with the physical senses, it would seem as if there should be discoverable in experience some distinct data assignable to the supersensible from which our completed idea of it has arisen, but such elements seem not to be found. Instead it seems as if our whole conception of this higher world were formed of elements sensuous in origin and only metaphorically applicable to this other realm. Jacobi feels the difficulty here and expresses his sympathy with mysticism. "What higher or deeper thought," he asks, "whether intellectual or moral does not border on mysticism?"[1] The beginning of all our knowledge, the presupposition of a Being embracing in Himself the true, the good and the beautiful, is mystical and mysterious, yet necessary. Here therefore Jacobi forsakes the purely intel-

[1] III, 438.

lectual and takes refuge in the purely instinctive and the vague. If we confine ourselves to the clearly conscious in our experience we shall find no support for our faith, for its objects are given neither in perceptions nor in concepts. But, and here he falls back upon Fries in his *Neue Kritik der Vernunft*, this division of knowledge into perception and concept holds only of our consciousness of our knowledge and not of knowledge itself. There are, besides these clear ideas, "also unclear ideas and to these belong especially the immediate, inexpressible, peculiar knowledge of the reason."[1] The validity of these ideas we can only feel. Any attempt to translate them into sensuous forms or intellectual concepts can result only either in *Schwärmerei* or in logical formalism.

This seems to be Jacobi's final word as to the rational intuition upon which he rests the whole of his religious faith. This vision of God, in which he believes, reduces itself in last analysis to a vague experience of intense emotional value. In particular, there seems nothing in it to justify its characterization as a sense for the supersensible and an organ for the immediate apprehension of spiritual realities.

The question as to the certainty of faith has been partly answered in the preceding discussion. Here, too, Jacobi wavers. Generally his assertion is that our beliefs are certified by an immediate feeling which admits of no further strengthening. The man who doubts that a table is before him is beyond reach of further argument; he either has the reality feeling or he has not, and that is the end of it. So it should be that a man either has or has not the felt conviction of the presence of God or of his own freedom, and with that the matter be settled. But Jacobi is not content to rest the question on immediate feeling alone, or, at least, upon any single feeling. The issue involved in the existence of God seems too great to rest for its evidence upon the same simple feeling of certainty which guarantees the reality of a sense object. It is not a question of a mere isolated individual object but of a whole world of moral and social values, which depends upon the assumption of freedom and a personal God.

[1] *Neue Kritik*, I, p. 204.

If man is not free to resist the naturally stronger impulses toward evil, virtue is impossible and our reverence for personality a folly. How freedom is possible and why it is not always exercised in the interest of the good is a mystery, but the fact of it is the heart of the moral life. And so of God: if a personal will is not the cause of things, personality cannot be found in the effects, and we are reduced to a mechanical world in which our morality is an accident, without support or comfort for the future. Our whole moral being cries out for these realities and will not be refused. It is true that in one passage Jacobi asserts the dependence of all faith upon this religious feeling as its source, but this is a genetic relation rather than a logical one. Our particular beliefs grow out of our religious feelings, but their surety for us is not in the primitive feelings from which they arise but in the world of ideal values which they support. These ideals we will have and if these mean freedom and God, these too must be. These derivative values are also values for feeling, according to Jacobi, but the kind of certainty they give is far from the immediate feeling upon which he at first seemed to base them. Certainly this conclusion brings him very near the Kantian and Fichtean conception of practical faith and far from his own formal theory of the priority of the rational intuition.

A summary of Jacobi's philosophy would be as impossible as useless. His writings are the expression of his lifelong struggle to understand himself and to justify his beliefs to the world. His own words form the best characterization of his work. "It was never my intention to set up a system for the schools: my writings proceeded out of my innermost life, they produced historic consequences. I produced them not so much myself as induced by a higher, irresistible power. If thinking and writing of this kind is personal, then my philosophy is essentially personal, but so is that of all whose philosophy is a religion; who seek not for truth in general—an absurdity, like existence or actuality in general—but for a definite truth, satisfying to both head and heart."[1] It is in this passionate, personal type of philosophizing that he is akin to our present age. He is philosophizing for his

[1] IV, p. xvii.

very soul's life, and the beauty of a neat, logical system makes little appeal before this hot longing for access to reality itself. A personal God has no superiority as an explanation of the world, but He alone makes life worth living, and for men of Jacobi's temperament life must be worth living. In every line that he wrote can be felt his distaste for the theoretical attitude and his hunger to embrace reality in his own being. Realist, individualist, pluralist, empiricist, man of faith, in all save incisiveness of thought and picturesque concreteness of style, he is the William James of the late 18th century. Possessed of an acutely keen critical power, he exposes the weak points of his opponents, but his own appeal is to the emotions and the will rather than to the intellect: his function is to persuade rather than to demonstrate. That his philosophy depended upon what might almost be called temperament he had recognized more or less clearly all through his career, but shortly before his death he confessed almost sadly that he had come to feel this as never before: "No one upon whom the feeling of freedom has not impressed itself as upon me, can be convinced by me. No one who cannot admit personality in my sense of the term, can accept my philosophy, my doctrine is no doctrine for him, I am no man for him."[1]

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[1] IV, p. xxiii.

REVIEWS OF BOOKS.

The Authorship of the Platonic Epistles. By R. HACKFORTH. Manchester, University Press. 1913,—pp. 203. [Price $2.00 net.]

Mr. Hackforth's is, unless I mistake, the first English work in which the authorship of the Platonic Epistles is considered with anything like due fulness. I am glad, therefore, to welcome it as being, in my own opinion, a step, and a long step, in the right direction. But before I allow myself to deal with its contents, there is a criticism I feel bound to pass on the University which has issued it as one of a series of University Publications. In its external appearance the work in the main does credit to the University. The binding and type are alike agreeable, though there are one or two vexatious misprints such as no careful proof-reader should have passed, (*e. g.*, "Philius" for "Phlius," p. 156). But the printing of the necessarily numerous Greek quotations is not such as one has a right to expect in a book issued by a University which is honorably anxious to maintain the high standard set by the presses of her older sisters. For one thing the font of type adopted is of inferior design, and, for another, is not uniform. While most of the letters are inclined at an angle of, I suppose, about 75° to the direction of the lines of printing, the βs and θs are all perpendicular, or nearly so, with a result very unpleasing to the eye. It is still more unfortunate that there is a noticeable blank space before the first and after the last letter of every Greek quotation, so that the impression is given that the pages have been originally set up with blank spaces into which the Greek has been subsequently inserted by an unskillful compositor. Worst of all, there are an unusually large number of ugly errors in the use of the breathings and accents. I have myself noted forty such mistakes and I have not read the book with any special attention to these matters. If the University of Manchester seriously means to produce scholarly work in Greek philology it will have to mend its ways in the matter of Greek accentuation. To pass now to the contents of Mr. Hackforth's work, I regret that in a review specially devoted to Philosophy I cannot deal with the issues it raises as fully as I should have wished, since they are, in the main philological and historical. The *Epistles*, if genuine, throw a welcome light on Plato's biography, and contribute to our knowledge of the transition from the Attic prose style of the

early fourth century to the κοινὴ of the Macedonian age; they make no serious difference to the interpretation of Plato's philosophy. Hence this notice must be confined in the main to a consideration of the most general issues which Mr. Hackforth's methods and results suggest, to the exclusion of points of linguistic detail.

Mr. Hackforth's results, as summarized in his *Conclusion*, represent a *via media* between the view of Raeder, which I ought to say at once is also my own, that the whole of the 13 letters contained in our Plato MSS., with the exception of the first are genuine, and the now happily all but defunct theory of the nineteenth century athetisers who regarded them all as spurious. Mr. Hackforth holds that five of the letters, 3, 4, 7, 8, 13—all, that is, which are of special interest, with one exception—are genuine, five others, 1, 2, 5, 6, 12, are spurious, and the remaining three 9, 10, 11 "doubtful." These positions he maintains with a little more than the average assurance of a really critical scholar; "unquestionably," "incontestably," "beyond doubt" are expressions which meet the eye very frequently in his pages. Yet I think it by no means "beyond doubt" that his *via media* would prove untenable on more thorough examination. Indeed he has himself provided a great deal of the ammunition by which his position may be attacked. On the linguistic side he has reproduced and added to the evidence which shows that there is nothing whatever in the language of the letters he rejects to afford ground for suspicion. And he must not be surprised, therefore, if some of his readers demur to his confident atheteses until he can produce historical or philosophical objections in their support.

I do not intend to comment here on the evidence collected from others, or put forward for the first time, in defence of the five letters which Mr. Hackforth accepts. It is enough for me to say that I believe the evidence marshalled as he has marshalled it is invincible except to those who will not see. In particular, I congratulate him on the fulness with which he has met the series of, mostly arbitrary. exceptions taken by C. Ritter to *Ep.* 13, the one document in which we see Plato in "undress." When the replies made point by point to Ritter's criticisms have been carefully weighed it becomes quite clear that the German critic has really no better reason for rejecting this interesting letter than a notion that it reveals human weaknesses in Plato's character, and that most of the so-called "weaknesses" have been deduced from misunderstandings of Plato's language, or of the state of facts presupposed in the letter.

As for Mr. Hackforth's own atheteses, however, I wish to suggest

briefly that he would not have indulged in them if he had put the real critical problem raised by the correspondence as a whole clearly before his own mind. That he has failed to do so is sufficiently indicated by the simple fact that he writes habitually as though, in dealing with works ascribed to Plato, the choice lay between authenticity and "forgery." It never seems to occur to him that a work reckoned as Plato's in the Canon of Thrasyllus, but proved by modern criticism to be non-Platonic, need not be in any sense a "forgery." Yet most, at any rate, of the non-Platonic dialogues reckoned as genuine in antiquity are certainly not forgeries in any sense of the word. Some of them, such as the *Minos* and *Hipparchus*, are indubitably the work of Socratic men of the early fourth century, and cannot therefore be "spurious" dialogues of Plato. They are simply Socratic discourses of the Platonic age whose real authors have been forgotten, just as the tract on the Athenian polity preserved in the MSS. of Xenophon is not a "forgery" but an anonymous work of the later fifth century. Even the works which were "universally rejected" by antiquity from the Platonic Canon are not necessarily "forgeries." The *Axiochus* is a case in point. Its style and contents alike prove it to be the work of a Platonist of c. 300 B.C. It is thus non-Platonic, but not in the proper sense of the word "spurious," since it makes no pretense that Plato was its author. The attribution to Plato merely means that the real authorship of that particular Socratic discourse was early forgotten. One may further remark that the very fact that third-century work like the *Axiochus* was "universally rejected" in later antiquity tends to show that the tradition or linguistic sense or both of the students of Plato in later antiquity was fairly sound. That the *Epistles* were not "rejected" shows a correct sense that their style is not that of the third, or a later, century, as indeed Mr. Hackforth admits. Now this, in turn, means that, whoever wrote them, the letters admitted into the Canon, are fourth-century work. The *Axiochus*, again, offers us the means of testing our assertion. It so happens that its contents enable us to date it with absolute certainty to a very few years. It is an Academic work belonging to the years at the very end of the fourth or very beginning of the third century. But in this dialogue, though its writer is clearly a member of Plato's Academy, the style is already totally dissimilar from that of the "later" Platonic dialogues, which is exactly reproduced in the *Epistles*. The same thing may be said of the most important of the *νοθευόμενοι*. It is only because we do not study them that we fall into the error of crediting Alexandrian "forgers" with ability to make colorable

imitations of the highly individual manner of Plato, or even to reproduce his vocabulary. But if the *Epistles* belong to the fourth century at all, the only plausible theory to account for them as "forgeries," the view that they were "faked" for sale to the book-collecting kings of Egypt and Pergamus, vanishes. What I find lacking in Mr. Hackforth's work, then, is the recognition that what we have to deal with is, in the first instance at least, not individual letters, but a correspondence as a whole, a correspondence which exhibits a remarkable unity of style and sentiment. True criticism, bearing in mind that no letters but *the* thirteen stand in the Plato MSS. would begin by asking whether we can say when or how *the* thirteen letters as a unit came into the Platonic Canon. Whether one or other of the thirteen may be spurious is a logically secondary question which cannot be answered until we have learned what we can of the history of the collection as a collection. (So Van Manen rightly objected to the Tübingen criticism of another famous correspondence on the ground that Baur and his followers ought to have started from the fact that the ἐπιστολαὶ Παύλου, as a matter of history, came into the New Testament Canon as a connected whole, and not piece-meal.)

Now we know that "the thirteen" were already included in the Canon of Thrasyllus (who, by the way, was not misled into recognizing even such early third-century work as the *Axiochus*). We know, also, that some of the thirteen are used as Platonic by Cicero, and that certain "Epistles" were regarded as Plato's by Aristophanes of Byzantium. When we bear in mind that no Alexandrian "forger" ever succeeded in writing fourth-century Attic prose, that there are no signs whatever that any "letter of Plato" other than those contained in our MSS. ever stood in a manuscript or was used as Platonic by any writer before the Christian era, then, as it seems to me, we are irresistibly led to the conclusion that the *Epistles* reckoned as one work by Aristophanes were just the thirteen which Thrasyllus also reckoned as one member of a "tetralogy." At least, the *onus probandi* lies with those who impugn the statement. I, at least, see no way of escaping the conclusion that we have probability of the very highest kind for the view that a correspondence consisting of our thirteen letters and no others stood in the texts of Plato kept in the Alexandrian library from the first, and this, taken together with the excellent Platonic style of letters 2–13, convinces me that the attempt to reject some or any of the number must be abandoned. Even the case of the first letter, which it would be hopeless to defend, is not, as Mr. Hackforth assumes, one of "forgery," since there is no evidence

that the writer had any intention of impersonating Plato at all. This is not the place for philological discussion, but I may indicate my own conviction that on stylistic grounds alone, the document must be assigned to the fourth century, and is an absolutely genuine letter from some one who had played an important part in Sicilian history (not necessarily a foreigner, for the writer's designation of the city in which he had figured as "*your* city" may only indicate that he is an exile and technically ἄπολις,) to a ruler of whose conduct he complains. (As has been recently suggested, it would suit the situation in the letter if we supposed it to be written by Philistus to Dionysius I, but the suggestion is no more than a guess, and others could equally well be made.) The fact then will be, in all probability, that the letter was included in the collection of "letters of Plato" from the first, because it bore on the Sicilian troubles, and that nothing is wrong with it except the MSS. heading "Plato to Dionysius." A wrong heading of this kind no more makes the letter a "forgery" than the ascription of the ninetieth Psalm to "Moses the man of God" makes that poem a "forgery."

With regard to the rest of the letters all I can say in a philosophical review is that Mr. Hackforth's case against those he rejects is, in principle, destroyed if my contention that comparison with the νοθευόμενοι among the dialogues shows that the Platonic style could not be successfully imitated, even by Platonists, half-a-century after Plato's death is correct. With the exclusion of supposed motives for forgery the hypothesis of the existence of superhumanly gifted forgers is excluded too. And I will add that the attempts to raise difficulties about small points of language, and to detect "borrowings" from Platonic dialogues, are of no weight. Mr. Hackforth estimates this kind of thing at its true value when he is dealing with objections of the same order brought by the German athetisers against the letters which he defends. What he does not see is that methods of criticism which are puerile when applied to, say, *Ep.* 7 or 13, are equally puerile if brought up against 2 or 6. Not to say that in some cases he is definitely wrong about the facts, as, for example, when he says, as part of his case against 2 that "Plato probably did not use" the word ποίησις in the sense of a "poem." In point of fact the very use in question occurs at *Laws* 829e, as the lexicons note. Though, if Mr. Hackforth had been aware of this, I am not sure that he would not, like athetisers in general, have agreed that the coincidence proves "borrowing."

I may add a further remark with regard to this *Ep.* 2. As every one

knows, it contains the famous "enigma" about the three ἀρχαί, and Mr. Hackforth's great argument against the letter consists in an attempt to prove that this "enigma" has been concocted by a forger who stupidly copied the beginning of the genuine passage about the theory of knowledge in *Ep.* 7 without understanding its meaning. Curiously enough Mr. Hackforth seems to be unaware that any solution of the "enigma" (which, on his theory, is really insoluble because it is nonsense,) had ever been given before that of Raeder, which he rejects. He does not know, then, that the passage is discussed and xpounded by Plotinus (*Enneads* V, 1, 8) and again by Porphyry in the fourth book of his *History of Philosophy* (see the fragment as preserved by Cyril of Alexandria in Nauck's *Porphyrii opuscula selecta*). Plotinus explains, quoting expressly from our letter, that the three "spoken of are (1) the Good, (2) Mind = the Demiurge of the *Timaeus*, (3) the Soul of the World. This is a better solution than Raeder's which, as Mr. Hackforth says, is vitiated by a bad mistranslation. That it is what the writer meant seems obvious to me from the mere consideration that the "first" of the "three" is expressly called the "cause of all good things." In Platonic language this means that the "first" is the "good" of the *Republic*, and with this hint to guide him, a reader of the *Timaeus* can readily divine the rest of the solution. (In fact, until we recollect that the *Timaeus* was probably still unwritten when Plato sent this letter to Dionysius, we might fairly complain that his "puzzle" is no puzzle at all.) Mr. Hackforth's exposition is as unhappy as it is far fetched. He supposes his "forger" to mean by the "three things," Platonic "Idea" (in general), λόγος (the corresponding concept,—"in the mind," I imagine,) and the corresponding name. The "forger" got the idea of speaking of them in this enigmatic way as "first, second, third," from the epistemological passage in *Ep.* 7, where Plato speaks of a "first, second, third," which turn out to be (1) name, (2) corresponding definition or logical concept, (3) εἴδωλον, sensible embodiment of the concept, *e. g.*, a visible geometrical diagram. Thus the "forger" explicitly makes the incredible blunder of mistaking the "third thing" of 7, which is repeatedly described as the εἴδωλον, for a Platonic "Idea," and further makes a second equally bad blunder which Mr. Hackforth overlooks. Even on Mr. Hackforth's assumption the "forger" should have spoken of the "Idea" as the "third thing" and the name as the "first." In point of fact he has precisely reversed the order he is supposed to have got by misunderstanding *Ep.* 7, made the "Idea," which he imagined to be the "third" there referred to, "first" in his imitation, and inciden-

tally also said of "the Idea" (*i. e.* apparently of *any* "Idea") what Plato says exclusively of the "Good," that it is "King of all."[1] If Mr. Hackforth can believe in this complicated series of blunders within blunders, I cannot. The complexity of the supposed process of mental confusion is, to me, of itself proof that the "enigma" of *Ep.* 2 has nothing to do with *Ep.* 7 but is quite correctly connected by Plotinus with the *Timaeus* and the allusion to the first and second gods of *Ep.* 6 (which Mr. Hackforth tries to explain by a very far-fetched disquisition about the *Symposium* and the parentage of Eros, an explanation which leaves the words of *Ep.* 6 as mysterious as they were before). The only further reason of any weight produced against the authenticity of the letter is that "Plato could not" have spoken of his "deepest metaphysical beliefs" in a half-jesting way as a παιδιά. Mr. Hackforth has, of course, to allow that the very same language is used in the *Laws* about Plato's great work on legislation and jurisprudence, but that, he says, "is quite another matter." In my own opinion his comprehension of Plato is still very imperfect if he does not see that Plato is every whit as much in earnest about his social theories as he is about his metaphysics. Moreover, it is not the Platonic metaphysics but the half-mystical expression of his thought in terms of theology which is called in our letter "earnest mingled with play." And this is exactly what the symbolism of the first and second gods is. The doctrine of the "Good" and of God is philosophical earnest, its expression, as for instance in the *Timaeus*, under the image of the Architect and his model is "play." Plato himself warns us of this, only in rather different words, by the explanation prefixed to the cosmogony of the *Timaeus* (29 b–d), that the narrative pretends to be no more than a "tale" something like the truth.

The reasons given for condemning 5 (Plato to Perdiccas) are even more flimsy. The letter, which purports to recommend King Perdiccas to be guided by the counsels of its bearer Euphraeus, contains the very pertinent observation that each different constitution has its own characteristic "note"; the "note" of monarchy, *e. g.*, is different from that of democracy, as the characteristic "note" or "cry" of one animal is different from that of another. Hence a sound political adviser requires to be familiar with the special "note" of the polity to

[1] Ep. 2, 312 e. περὶ τὸν πάντων βασιλέα πάντ' ἐστι καὶ ἐκείνου ἕνεκα πάντα, καὶ ἐκεῖνο αἴτιον ἁπάντων τῶν καλῶν. So REP. 508 e, the "good" is neither ἀήθειαλ (Real Being) nor knowledge, but the "cause" of both, and (*ib.*, 509 d) it βασιλεύει "is *King* of" the νοητὸν γένος. So in the *Timaeus* (29 a) it is the "model" on which the Demiurge constructs the visible world which is "the cause" of "the most beautiful of things caused."

which his counsels are to be given. A man would be ill-qualified to act as adviser to a Macedonian king if he did not understand how to adapt his counsels to the prime factor in the situation, the fact that the system of the county is monarchical. The observation is as true as it is obvious. Euphraeus would have to bear steadily in mind that measures which might be feasible, for instance, under the Athenian constitution, might be out of the question in Macedonia, (of course there could be no question of sending him to establish a "Platonic republic"; his business would be, like that of the Aristotelian statesman who has to work with a theoretically undesirable constitution, to do the best "under the circumstances"). But it happens that in the *Republic* Plato had spoken of the opportunist demagogue as one who has picked up the knack of interpreting the inarticulate "cries" of the "many-headed beast." So Mr. Hackforth decides that because he had once used the metaphor of the "cry" of an animal, he may never use it again with a different sense, in a different connection, however appropriate and natural the new sense may be. "Plato has no conception of a 'key-note' appropriate to a particular form of government," and the whole passage must be a "clumsy" imitation of the passage in the *Republic*, though the two have nothing in common except the metaphor from the "note" or "cry," and the two wholly different applications of this metaphor are alike natural and obvious. Criticism of this kind is too arbitrary to have any objective value.

The condemnation of 12 (Plato to Archytas) rests on even more fanciful grounds, though in this case the original offender is Zeller, whom Mr. Hackforth merely follows. I should attach little weight to the note in some of our MSS. that "the authorship of the letter is disputed," since we know neither whether the comment was meant to refer to 12 or to 13, nor yet on what grounds the unnamed objectors based their arguments. Zeller's reason for rejection is, in any case, empty. He argues thus: in the life of Archytas by Laertius Diogenes there is a letter which purports to be sent by Archytas to Plato with certain works of the Lucanian Pythagorean Ocellus. This letter and our 12, which Zeller treats as purporting to be Plato's reply, are therefore probably forgeries by the author of the forged treatise of Ocellus, which probably belongs to the middle of the first century before Christ, the object of the fabrication being to claim the testimony of Plato to the authenticity of the work of "Ocellus." The argument is so bad that one can hardly account for Zeller's belief in it except by recollecting that he began life as one of the "Tübingen" critics. The only point of contact between our letter 12 and the pretended letter

of Archytas is that both speak of certain "documents" or "papers" as passing between the friends. The Platonic letter gives no information about the nature of the "papers," and makes no reference to Ocellus. (We have no real warrant for assuming that he is the unnamed "man" whom Plato thought "worthy of his ancestors of long ago.") Further, if the two letters had been the work of the same hand, we might reasonably have expected both to be found in our manuscripts of Plato, and this is not the case. And, finally, it is unreasonable to expect the successful imitation of Platonic prose, even on so small a scale, from a writer who knew no better than to make "Ocellus" express himself in the specific style of an Aristotelian lecture. To me it seems intrinsically much more probable, if there is really any connection between *Ep.* 12 and the supposed letter of Archytas, that the "forger" of "Ocellus" should have been prompted to construct his "covering letter" by the fact that there was an already recognized letter from Plato thanking Archytas for the communication of certain "papers." If the "forger" had himself concocted the letter in Plato's name, it is surely likely that he would have introduced some explicit reference to Ocellus into it. That he did not seems to me to show that his hands were tied by the existence of *Ep.* 12. Accordingly he could only get in the reference to Ocellus by inventing a letter of Archytas to which the already existing Platonic letter might appear to be an answer.

On the whole, then, I submit that the position of Grote and Raeder is really more in accord with sound critical principles than Mr. Hackforth's. In any case he has no right to call his atheteses "incontestable," since none of them rest on solid grounds (I except, of course, the case of *Ep.* 1, though even that, as I have said, is, in my opinion, not "spurious" in Mr. Hackforth's sense). And I would once more urge that no final decision can be reached until the question has been squarely and fairly faced. Does the 'Canon of Thrasyllus' contain any single work of which we can say with probability that it is later than the end of the fourth century? The proper way to examine such a question would be to make a careful comparison of the style and vocabulary of the *νοθευόμενοι* with those of the certainly non-Platonic dialogues which were placed in the 'Canon.' The nearest approach to such a study with which I am acquainted is the second chapter of Ritter's *Untersuchungen*, and the results given there, so far as they go, tend strongly to suggest that while the *νοθευόμενοι* almost uniformly betray a later date, the "spurious" small dialogues contained in the "Canon" have no linguistic peculiarities which

would suggest a date later than the end of the fourth century for any of them. If further examination should confirm these results the case for the genuineness of the *Epistles* as a whole would become almost incontestable.

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Development and Purpose; An Essay towards a Philosophy of Evolution. By L. T. HOBHOUSE. London, Macmillan & Co., 1913.—pp. xxix, 383.

In an illuminating introduction (which might serve, with appropriate modifications of detail, as the spiritual autobiography of many a philosopher who is now in his maturity) Mr. Hobhouse confesses this book to be the outcome of twenty-six years of serious concern with the problems set by the two philosophies which were, in the one case, the outgrowth of the regnant science of his day, and in the other case, the reaction against it,—the philosophy, namely, of materialistic evolutionism, and of "modified Hegelianism, or a form of Kantianism in which what was best in the Hegelian criticism was incorporated." Mr. Hobhouse could find no satisfaction in either philosophy; not in the first because of its tragic consequences for human values; and not in the second because the "attempt to regard reality as all spiritual was as fatal to clear thinking and to the most cherished ideas of the idealist himself as materialism." Besides, idealism failed to make its proper account with science.

Convinced that a philosophy which went counter to science could never justify itself, Mr. Hobhouse accepted the general conception of evolution as the key to his problem. But he realized that if the conception were to be properly applied, the mental and spiritual life must be treated quite dispassionately, without any attempt to minimize differences of kind and transform mental phenomena into physical, as had been the tendency among most proponents of evolution. An unbiased evolutionary treatment of the mental life might prove it to be not simply a function cunningly devised for adapting organisms to their environment, but for developing in organisms increasing control and direction of their world. Consciousness might even turn out "to be the central point in development." "This would imply not that reality is Spiritual or the creation of an unconditioned mind—a view equally repugnant to morality and experience—but that there is a spiritual element integral to the structure and movement of Reality, and that evolution is the process by which this principle makes itself master of the residual conditions which at first dominate its life and

thwart its efforts" (p. xxvi). Mr. Hobhouse's three books, *Theory of Knowledge* (1896), *Mind in Evolution* (1901), and *Morals in Evolution* (1906), were preliminary steps in the furtherance of this plan to work out the thoroughgoing implications of evolution. The present volume completes the plan.

The book is divided into two parts. The first part traces, in accordance with the methods and presuppositions of science, the development of mind from its lowest ascertainable conditions to its highest phases. The second part subjects this entire scientific procedure and result to the test of philosophical principles.

In tracing the evolution and function of consciousness, Mr. Hobhouse finds it necessary to reject 'consciousness' as the basis of his classification and to employ instead a type of activity (correlation) which is wider in extent and recognizable through external behavior. "The term correlation . . . serves, first, as a *summum genus* under which all kinds of vital activity, conscious or unconscious, might be subsumed, and secondly as a standard by which they might be compared" (p. xxiii).

By the employment of such a standard the author is enabled to escape the usual pitfalls that lie in the way of unwary assumptions as to the nature of mind. Throughout his historical descriptive account he holds no brief for any metaphysical theory of mind. He simply describes the different types of correlation processes that exist or have existed.

It is impossible to follow the author through the intricate chapters in which he traces the development of more and more adequate types of correlation. In general the development proceeds through correlations which are wholly limited to co-present conditions and in which there is for the creature as yet no "world" of "things" and "qualities," to correlations in terms of non-present factors. The latter correlations, inasmuch as they import the non-present into the present, constitute a world of resemblances and differences, continuities and discontinuities,—a world, in short, of "things" and "qualities," the "common-sense" world. But the common-sense world, when it first emerges, is full of inconsistencies and incoherencies. Qualities are confused with substances, as in animism and magic; identities are thought to exclude differences, etc. Also it discloses itself as wofully limited: trees and animals and persons seem moved by powers of which there is no clear understanding or control. Inasmuch, now, as the impulse of the correlating organism is to correlate, any factors of non-correlation are so much of stimulus to further adjustment. The

impulse to further correlation therefore takes the form, on the one hand, of a critical turning upon the forms and factors of the world of common sense in order to effect a better understanding and control of them. The outcome of this is the whole course of philosophic and scientific thought. On the other hand, it takes the form of reaching beyond the limited truths of the common-sense world to a world of Higher Reality. Point by point with this conceptual and experiential reconstruction and with this deepening and enlarging of spiritual life, goes an increasing control by the correlating process of the conditions of its existence both in relation to its fellows (morality) and to the world (arts). "Looking through social development as a whole," he concludes, "we observe first the development of an organ of social control and the increasing efficiency of ideas in the organization of life; secondly, the equalization of rights and duties and the consequent destruction of many of the barriers that divide mankind; lastly, the development of the principles of personality. . . . We now see that in social organization on its many sides, though the way is crooked, the final tendency is to realize that free cooperation of humanity which is the condition of a harmonious development. . . . But in tracing the history of mind we are dealing with one cause only—a cause that acts in a *milieu* of complex forces, but acting steadily, if our account is correct, gets the upper hand among them little by little" (p. 226).

Thus far the account has been purely historical. Is the account valid? Are we, in short, for all our history, any nearer to Reality? The author now finds it necessary to remove the typical objections that stand in the way of accepting such empirical data as of value for a determination of reality. There is first subjectivism; then the theory that no knowledge is true knowledge save as it is complete; and finally, the view that all knowing by analysis is a distortion of reality. Disposing of these and assured of the rights of empiricism in the premises, the author proceeds to a careful discussion of the conditions of valid scientific thought. What is noteworthy about this discussion is the clear connection shown between a true theory of knowledge and the concept of development. "The idea of development lies at the very basis of validity itself. . . . The continuity which any ratiocination claims is found to hold good only with this saving clause, that it is understood to yield truth not final and complete but partial and in growth. . . . The wider the basis and the more complete the articulation of thought, the more just is its rendering of reality" (p. 279).

So much for the critical review of the knowing process. But what

of the place of mind in the cosmos? Mind is only one, though indeed a growing factor in evolution. Perhaps there are absolute barriers to its farther expansion; nay, if the energy available is a limited quantity, there may come a time of absolute extinction. The author examines with skill the arguments based upon the law of dissipation of energy and shows conclusively the utter insecurity of their ground. But escape from the fate of extinction, he holds, can be gained only by the proof that mind is a true cause and not an epiphenomenon. The author proceeds accordingly to the fundamental task of his book, the examination of the concept of causality. In the chapter on Mechanism and Teleology, he makes first a careful analysis of the two concepts and proceeds then to ask whether there is empirical evidence of teleological or purposive causality. Such evidence he seems to find in the fact that there are types of action which are selective responses to unique conditions involving the future. The condition of a mechanism on the contrary is that it responds only in typical ways to typical conditions.

The living being then is a system of forces "in which mechanical relations are qualified by teleological relations." We err, however, when we hypostatize these into two substances, Mind and Body, and seek by various devices—parallelism, interactionism—to establish the relations between them. In point of fact "the concept of the mechanical sums up or brings together certain elements of experience; the concept of mind certain other elements. But these elements belong to or qualify realities which act as wholes. . . . The mechanical and the teleological are then modes in which reality operates. At some points reality appears to operate wholly on mechanical lines. At other points, in living beings, the mechanical operations are qualified by teleological factors. At other points, it may be, it acts in teleological ways exclusively. To avoid misunderstanding it should be added that there is no warrant in this statement for the inference that in the living being either the mechanical or the teleological factor is the substance of which the other is the quality. Both factors qualify the total Reality, which in addition may contain many unknown elements" (p. 329).

With the justification of purposive causality, the main task of the book is accomplished. Mind is a true cause; the historical evolution which exhibits the increasing development and control of mind, is as far as it goes a true history of reality, which points to the growing effectiveness of mind in reality. But the account shows mind to be only one factor, not the Creator, nor the Absolute. It is the destiny

of mind to grow in power, to transform a world of more or less mechanical indifference into a world of significant unity. So the argument is brought full circle; and the task of reconciling evolutional science with the fundamental values of purpose and development is brought to a close.

There can be no question that in this latest volume Mr. Hobhouse has performed a philosophical service of high rank. With a comprehensive understanding of an intricate mass of details, he has pointed the way in which philosophy, making its full account with natural science, may yet retain those fundamental values which anti-scientific philosophies had formerly sought to secure by arguments essentially indefensible. The world view to which he leads is in keeping both with the modesty and the high faith of modern science. Evolution is not a word to conjure with in the sense that all is inevitably upward moving. Reality is indeed proved to be fundamentally organic; but the mind process is but one among many processes, one which makes its way slowly and by devious paths to increasing control. In this respect Mr. Hobhouse lends support to the growing attitude of opposition to the Absolutisms. The Good, the Spiritual—God indeed—is a developing, not an eternally existent, reality. A new type of religious attitude is thereby implied, the attitude of devotion to and active support of the growing spiritual life that is in and of the life of the world. One wishes, however, that at the end of his book Mr. Hobhouse had been clearer in his expressions regarding the cosmic character of mind. After elaborating a view which unequivocally showed mind-correlations and therefore purpose to have had their slow development out of correlation-activities which were not yet mental or purposive, Mr. Hobhouse in the last chapters speaks of a World Purpose in a way that brings him dangerously near to the Absolutisms which he apparently rejects. Yet this may be wholly due to unclear expression, for the counter view of a World Soul or World Mind as a type of reality yet to be realized is undoubtedly part of Mr. Hobhouse's thought.

Far-reaching in its philosophical significance is the author's resolution of the body-mind dualism. According to Mr. Hobhouse, mind is simply a type of organic functioning. Mind *is* body; only it is that type of body which has achieved the power to correlate in terms of novel and non-present conditions. The disproof of the body-mind dualism and the resolution of all processes into "correlations," changes the traditional separation of mind and body into a distinction between different types of correlation-activity, types not radically different

but conceivable as continuous with each other in development. With the adoption of the correlation theory of mind goes the denial of the various copy theories of knowledge and in general of all those views, which regard mind as some manner of 'subcutaneous' substance. Yet it must be confessed that with all Mr. Hobhouse's alert suspicion of the substance views of mind, he sometimes falls into expressions which preserve their flavor, as *e. g.* (p. 161): "For the function of thought as a correlating activity is to discover what is already real and the only thing it constructs is its own system *which it means to correspond to the real order*" (italics mine).

One cannot praise too highly the intricate and searching analysis of the concept of causality and the proof that teleology is a fundamental category. On the other hand, one feels that Mr. Hobhouse has not done sufficient justice to the modern movement in the biological and psychological sciences which aims to exclude all teleological methods of explanation. Mr. Hobhouse's analysis would seem to condemn such a movement and to take sides with that other type of dualism which, dividing the world into mechanical and teleological processes, demands that each type of process be dealt with by the method appropriate to its character. Mr. Hobhouse's own arguments however might have led him to support in full the movement for a thoroughly mechanistic science. For if, as he seems to prove, organic unity is "the limit of a mechanical adjustment of interacting parts," the analysis even of organic unity may be made in mechanical terms, *i. e.*, in terms that infinitely approach the limit. Analytic science can do little with "the simultaneity of a consentaneous whole;" it must break up the consentaneity; *i. e.*, it must treat what is not mechanical as mechanical. But in so doing it need not seriously falsify, any more than the calculus falsifies in translating a curve into straight lines. Like the calculus it may reduce the error to an infinitesimal. Hence it is perfectly possible to hold that reality is fundamentally organic and yet believe that the only true method of science is the mechanical. One further word of criticism must be made. One finds in Mr. Hobhouse's sharp distinction between knowledge and practice a partial surrender of his own view of mind as essentially a correlating activity. If mind correlates, it is fundamentally practical. There is then no such sharp distinction between theory and practice as Mr. Hobhouse seems to assume.

May the writer venture, too, the hope that in succeeding editions Mr. Hobhouse will rewrite and amplify the exceedingly crucial pages 345–348, which at present are heart breaking?

Such criticisms however are offered with apology lest they seem to detract unduly from a work which is of such splendid power that it cannot fail of lasting effect upon philosophy.

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Pragmatism and Idealism. By WILLIAM CALDWELL. London, Adam and Charles Black, 1913.—pp. vii, 268.

The main purpose of this book is, in the words of the author, "the estimation of the place of Pragmatism in the constructive thought of the present time" (p. 126). The author does not set out to explain Pragmatism, nor to defend it, nor to controvert it. The time is past, he holds, when books explanatory of Pragmatism are needed; for most thinking people have formed judgments of their own about it. "There are still, however, some things to be said, at least in English, upon the place and the meaning of Pragmatism in the philosophical reconstruction that is generally felt to be so necessary today" (p. 1). The present volume, the product of mature reflection, judicial in tone and well-considered as to conclusion, is itself evidence that the time has come when it begins to be possible to make a fair appraisement of the value of the pragmatist's contribution to philosophy.

There are indications, thinks Professor Caldwell, that Pragmatism has already received its highest theoretical expression (p. 3). It has, he believes, "progressed from the stage of (1) a mere method of discussing truth and thinking in relation to the problem of philosophy as a whole, to (2) that of a more or less definite and detailed criticism of the rationalism that overlooks the practical, or purposive, character of most of our knowledge, to that of (3) a humanistic or 'voluntaristic' or 'personalistic' philosophy, with its many different associations and affiliations" (p. 20). Signs appear "that Pragmatism is perhaps breaking up in America into some of the more elemental tendencies out of which it developed—in this case the American desire for operative (or effective) realism and for a direct contact with reality instead of the indirect contact of so many metaphysical systems" (p. 54).

After an instructive resumé of the phases Pragmatism has assumed in European countries, with a mention of some of the results of the pragmatist movement upon contemporary philosophy, in Chapter II, Professor Caldwell begins the detailed study of his subject. He opens the discussion by a treatment in the following chapter of the three or four more or less characteristic assumptions and contentions upon which the fundamental tendencies of Pragmatism appear to rest.

Four of these assumptions are considered. The first is the position that all truth is "made" truth, "human" truth, truth related to human purposes and attitudes. Despite the self-evident character of this assertion and its wearisome iteration by pragmatists, the author agrees that a consideration of the utility of first principles in explaining our common experience and its realities is the only way of explaining their reality even as conceptions. The second is Pragmatism's insistence that belief is the one thing fundamental to our entire life as men. Only the undue prominence of mathematical and physical science since the time of Descartes has, in the author's opinion, made evidence and demonstration the main consideration of philosophy, instead of belief. The third characteristic assumption of Pragmatism is the "deeper view of human nature" upon which, in contrast to Rationalism, it supposes itself to rest. Here also the author so far agrees as to assert that the affections and emotions "rest in general upon a broader and deeper attitude to reality than does either the perception of the senses or the critical analysis of the understanding" (p. 71). A fourth characteristic of Pragmatism is its notorious "anti-intellectualism." Considered in the light of its results upon contemporary philosophy it has led to a general clearing of the ground, with many striking concessions to common-sense.

The fourth chapter, entitled "Pragmatism and Human Activity," gives us the key to Professor Caldwell's own position—the position which places him in fundamental sympathy if not in complete agreement with Pragmatism while at the same time affording him a standpoint for most effective criticism. It is the outstanding characteristic of Pragmatism that it raises the "great question of the simple fact of human action and of its significance for philosophy" (p. 93). This central fact of action has been relegated to a subordinate place by the rationalism of philosophy and the mechanical philosophy of science. It is the great merit of Pragmatism to have discovered the momentous importance of action. "If action therefore could only be properly understood, if it can somehow be seen in its universal or its cosmic significance, there would be no discrepancy and no gap between the world of our ideals and the world of our thoughts. We would know what we want and desire what we know we can get—the complete development of our personality" (p. 101). Pragmatism has failed, however, to make the most of its justifiable insistence upon action and upon the creative activity of the individual. This failure is due to its neglect of the ideals of personal conduct in its pre-occupation with the process of acting. "Short, however, of a more genuine

attempt on the part of Pragmatism than anything it has as yet given us in this connection to justify this higher reason and truth that are embodied in our consciousness of ourselves as persons, as rational agents, all its mere 'practicalism' and all its 'instrumentalism' are but the workaday and utilitarian philosophy of which we have already complained in its earlier and cruder professions" (p. 108).

The following chapter contains a criticism of Pragmatism that is both searching and satisfactory, since it does not pause to cavil over minor shortcomings but lays bare in a convincing and forcible fashion the fundamental defects in the philosophy under examination. In the first place, the pragmatic criterion of truth is inadequate. It amounts to no more than the harmless doctrine that the meaning of any conception expresses itself in the past present and future conduct, or experiences of actual, or possible, sentient creatures. But if harmless, this doctrine of truth, as it stands, is also useless, since Omniscience alone could bring together in thought all the consequences of an assertion. Secondly, Pragmatism is fatally weak in the realms of logic and theory of knowledge. It has failed to connect its discoveries in genetic logic and in the theory of hypotheses with the traditional body of logical doctrine, or its hints about the practical or experimental origin of most of our points of view about reality with the problem of the validity of first principles generally. In the third place, it has failed to attain to any intelligible or consistent conception of reality. "Now it is just this palpable lack of an 'objective' or rational order that renders the whole pragmatist philosophy liable to the charges of (1) subjectivism, and (2) irrationality, (p. 134). Fourthly, it is unsatisfactory in the realm of Ethics. "And so far as practice is concerned, all that this Pragmatism or 'Relativism' in morals inevitably leads to is the conclusion that whatever brings about a change, or a result, or a 'new formation' or a new 'development' of the moral situation, is necessarily moral, that 'growth' and 'liberation' and 'fruitfulness' and 'experimentation' are everything, and moral scruples and conscience simply nothing" (p. 139).

These errors and inadequacies do not condemn Pragmatism in the opinion of the author; for he believes that it contains tendencies which, if allowed development, will do much to remove them. The tendency which he has chiefly in mind is the humanistic, and this is made the subject of a chapter, "Pragmatism as Humanism." The great thing about Pragmatism, as the Humanism it is tending to become, is its emphasis upon the ethical and personal factors that enter into all our notions about final truth. Although Pragmatism denies any im-

personal or absolute truth, it need not remain a mere agnostical or relativity philosophy. On the contrary, Pragmatism would like to maintain that in volition we do know something about the inward meaning of things, and at least reality is what it comes to be in our purposes and ideals. The cause of Pragmatism's inability to show that the developmental view of things is the real view lies in its failure to recognize the existence and transforming effect of a supreme ideal of personal worth. Ethics as a normative science insists upon the fact that man superposes the ideal of his own personality upon the natural order, transforming it into a spiritual order. Recent researches into the facts of moral development show that the supreme authority attributed to the Moral Law is not an illusion, but that through the course of human history such an ideal has been working. Pragmatism has shown itself as yet unable to rise above the descriptive and hypothetical science of the day, to the ideals of the normative sciences.

The interesting chapter which follows upon Pragmatism as Americanism must be dismissed with briefest mention. Professor Caldwell shows powers of observation and discernment which carry him far beyond the obvious and tedious commonplaces which are so easy to repeat when discussing this subject. To connect Pragmatism with Americanism, he holds "would certainly not be to depreciate Pragmatism but to strengthen it by relating it to a spirit that is affecting the entire thought and life of mankind" (p. 170). Besides commenting upon the American-like characteristics that make themselves apparent in Pragmatism he singles out two features of American university life of which this philosophy may be regarded as a partial expression. There are the competition of studies which has resulted in a somewhat forced attempt on the part of pragmatists to make philosophy a 'live' subject, and the emphasis upon method of instruction which has made the upholders of Pragmatism willing to present it as a methodology of thought rather than a complete philosophy.

In the chapter upon Pragmatism and Anglo-Hegelian Rationalism Bosanquet's *Principle of Individuality and Value* is selected for consideration because typical of the best in 'Anglo-German Intellectualism.' This work is subjected to a very severe criticism, somewhat overwhelming in fact, as the author finds in it six positive errors, seven leading characteristics to which serious exception might be taken, seven positive contradictions, and notes four reasons for pronouncing it unsatisfactory from the standpoint of Ethics! Offsetting in a measure this drastic criticism is the admission on part of the author

of an "element of supreme truth and value in Dr. Bosanquet's unique book." "This is, in a word, its tribute to the permanent element of truth and reality in the idealistic philosophy" (p. 226). The first thing of transcendent importance and value in *Individuality and Value* is its insistence upon the fundamentally different estimate of reality given by philosophy in distinction from the merely hypothetical treatment of science. The second great thing is its insistence upon the need to all philosophy of a recognized grasp of the principle of *meaning*. "Overriding altogether the mere intellectualism of Dr. Bosanquet's interpretation is the fact of the *dynamic idealism* for which he virtually stands, in virtue of the great and simple effort of his lectures to find 'value' in our daily experience with its huge obstinate plurality of independent facts" (p. 227).

The concluding chapter upon the "Philosophy of Bergson" is notable for its appreciative account of the valuable features of the Bergsonian philosophy and its emphasis (over-emphasis, one is inclined to think) of the points of agreement between this philosophy and Pragmatism.

The book is a contribution of decided value to contemporary philosophy. The results of wide reading and continued study are skillfully organized and presented in clearly reasoned and compact chapters. The author stands ready on all occasions to acknowledge and explain the strong points of Pragmatism, which he regards as in the main true, at least as an approach to philosophy, while at the same time laying bare its weaknesses with the assurance of one who has entered sympathetically into the truth of a position but himself sees beyond it. With the general view of the author that conduct is the test of thought, provided conduct is governed by the universal ideals of personality, the reviewer is in entire agreement—such complete accord, in fact, as to divert his attention from minor points of difference. It is possible that the book suffers somewhat from brevity and condensation: the pragmatism theory of verification is perhaps too summarily disposed of; the pragmatist conception of evolution and the reality which is evolving seem to call for fuller consideration.

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NOTICES OF NEW BOOKS.

The Problem of Evil in Plotinus. By B. A. G. Fuller. Cambridge University Press, 1912.—pp. xx, 336.

Dr. Fuller has published an interesting and exceedingly well written book in which he attempts to measure the value of mysticism from the point of view of its treatment of the problem of evil. He is interested to prove that a mystical view of the universe must either resolve Reality into a oneness without plurality, a goodness without evil, or must confess its own bankruptcy as a metaphysic. The author finds Plotinus a particularly inviting subject for dissection because the characteristic of his mysticism was its unwillingness to give up both plurality and evil, at the same time that it insisted upon the utter oneness and goodness of the Real. Dr. Fuller believes this to be due to the fact that Plotinus succeeded to two traditions, the naturalistic and the mystical. The naturalistic tradition was responsible for his joy in natural goods, and for that highly peculiar aspect of his philosophy which followed from it,—the belief in a plurality of goods, each perfect in its way and yet not so perfect as the One. The mystical tradition, on the contrary, was responsible for that aspect of his philosophy which voiced the scorn and contempt for the things of the natural world—the body, the human passions, etc.—and which recognized nothing truly worth while save the infinite and ineffable One. Plotinus's effort, through emanationism, to resolve the conflict between these two elements in his view, Dr. Fuller finds to be wholly futile, the fundamental fallacy residing in the attempt to make difference in kinds of perfection interchangeable with differences in degree of perfection. There is, Dr. Fuller shows, scarcely a contradiction in the whole Plotinian theodicy which is not referable to this confusion of kinds and degrees; νοῦς, for example, cannot be at once a perfection *of its sort*, and also less perfect than τὸ ἕν. If, however, it is not less perfect, Plotinus's doctrine is a pluralism of perfects and not a mysticism. If, on the other hand, it is in fact less perfect, the world in so far has defect, and is therefore a dualism of good and evil, not a mystic monism. To hold that all comes from God, as light comes from the sun, helps in nowise to resolve the fundamental conflict here indicated. Dr. Fuller through his three hundred pages tosses Plotinus in painful alternation upon the horns of this dilemma.

And yet it is a question whether Plotinus the mystic would have been much perturbed by his critic's merciless treatment. In the first place he would doubtless have questioned, with some sad resignation perhaps, whether his conscientious critic really understood his view as a *mystic* would understand it; or whether, standing on the outside of the view, he was not applying to it standards and methods of criticism which might indeed have application in

his own outside region of thought, but which could have no pertinence *within* mysticism. To the profane all things are profanation. Mysticism, he would have said, is first of all an attitude,—of utter humility, of utter self-surrender, of utter love. Achieve this and all the universe is filled with the goodness and the joy of God. Everything not God is less than God; yet everything is God. All that is less than the fullness of God is imperfect relatively to God; yet all that is of God is perfect. To one who has achieved the attitude of utter love and utter humility there is no contradiction here. All is part and member of God's life; the parts are parts and yet are fulfilled of the whole. As parts they are less than God; as fulfilled of his spirit, they have the perfection that comes of his life.

And Plotinus would doubtless be perfectly justified in his reply. Dr. Fuller is not a mystic; he does not think as a mystic does. From the mystic's point of view, therefore, his logical dissections, analyses, counterpositings, etc., are simply the application of what Hegel would have called 'external reason.' And yet it does not follow that Dr. Fuller is wrong either, as to his own position regarding God and evil. No doubt the weight of modern conviction would be on his side. We, like him, are not mystics to-day. We do not easily abase ourselves. We are not transported in utter love and wonder of the universe. We sprunt up; we demand our rights; we are democrats. We cry 'Lo here' and 'Lo there!' What Dr. Fuller's book really shows (and shows admirably) is that from the point of view of our fundamentally unmystical way of thinking all such emanationistic explanations as Plotinus indulged in to reconcile the evil of the world with the superessential One, are utterly futile. Evil for us is evil; and we will submit to no mystical legerdemain to presto-change it into good. Plotinus believed evil to be good—really *believed* it; loved it, so to speak, into very goodness. We believe evil to be evil. And we stand stoutly on our rights and demand that it be manfully accounted for.

The value of Dr. Fuller's book, in short, lies not so much in its criticism of Plotinus (although one must acknowledge the value of much of the translation and exposition of Plotinian philosophy) as in its sharply critical handling of the problem of evil from our modern, non-mystical, self-assertive standpoint. No absolute optimism, he shows, no beneficent 'creationism'—and traditional Christianity falls here with all the rest—can any longer successfully resolve evil into good. That way is now closed. The alternative way, Dr. Fuller thinks, is through a frank and searching naturalism. In the discussion of the better way there is in the book much that is of interest and moment for students of religious philosophy, although it is a question whether they will find in Dr. Fuller's arguments a solution adequate to the perplexing problem of evil.

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Die Grundlagen der Naturphilosophie. Von HUGO DINGLER. Leipzig, Verlag Unesma G. m. b. H., 1913.—pp. x, 262.

The proper object-matter of epistemology, according to Dr. Dingler, is the field of exact science; yet not in all its empirical detail but rather in the ideal form which actual science more and more nearly approximates. Thus epistemology requires exact science as its datum; and even if the latter is not at present complete, yet there are certain parts which we cannot but regard as practically finished. Our object must then be to show how the scientific form is constituted.

Although the sciences grew up by and through particular observations, yet these observations, when compared and made more exact, gradually assumed a mathematical, deductive form which is independent of their particular content, and is the common element in all science. We find, then, "dass ganze Wissenschaften logisch völlig identisch sein können bei der absolutesten Verschiedenheit ihrer Inhalte" (p. 39). Geometry, in fact, was once an experimental science, even as Physics now largely is, but Physics is at length assuming the logical, deductive form. The method in every science is to reduce the given to the simplest propositions from which the rest can be deduced; economy, analysis into parts, and synthesis, are the processes by which we accomplish this result. And this is purposive activity: "nicht die Natur ist in diesem Falle die Herrin, sondern der Mensch, der schliesslich einen Vorgang so herstellt, wie er ihn haben will" (p. 53). When, indeed, the scientist consciously works out an experiment to reveal a certain law, he does prescribe law to nature. Yet in doing all this he abstracts, isolates and can do no better than approximate the facts. Generally speaking, apparatus is "Isoliermittel" (p. 64). *Two* systems thus open out before the mind of man: the general, deductive rational body of exact science, and the historical-actual or individual contents of the real world. The former can never describe the latter in their uniqueness and individuality.

This characterization of science is sketched out in the first two chapters; chapter three reveals the epistemological foundation upon which it must rest. In this chapter the influence of Mach, Avenarius, Petzoldt, *et al.*, is apparent. For example: "Jeder Satz, der eine logische oder kausale Verknüpfung in diesem Sinne enthält, oder jeder Begriff, der auf Grund solcher Verknüpfungen gebildet wird, ist also nicht mehr *Material, wie es uns die naive Welt darstellt*, sondern stellt schon eine gewisse *geistige Verarbeitung* solchen Materials dar" (p. 112). The criterion by which to distinguish all "geistige Verarbeitung" is as follows: "dass wir *alles*, worin wir uns irren können, der logischen Verarbeitung zurechnen, jedes Urteil also, welches auch falsch sein, auf einer 'Taüschung' beruhen könnte" (p. 119). "Die Trennung unserer Gesamtwelt in Innen- und Aussenwelt gehört der logischen Verarbeitung an" (p. 120). "So kann insbesondere *nicht ein erkennendes Subjekt mit den zu erkennenden Objekten als Gegensatz dazu am Anfang der Erkenntnistheorie stehen*" (p. 120). What *is* immediate given is "lediglich das *Erlebnis*" (p. 121). From this point of view the most difficult problems of epistemology find their

solution: for they are due to the delusion that the distinction of subject and object is ultimate and fundamental.

In Chapter four, "Psychological Questions," we have some fairly radical utterances. The feelings of other men than myself appear, in so far as they are 'inner' states as "eine logische Hilfskonstruktion, vorgenommen im Verlaufe der logischen Verarbeitung, eine Hypothese, eine Theorie" (p. 146). So far as it is behind the scenes, however, this concept is naught but a "Steril-definition"; the proper direction in which to search for a definition of consciousness is the functional one. Consciousness should be treated as "eine Art Zentralisation der Nervenerregungen," "eine Art von Einrichtung oder Vorrichtung in unserem Gehirne" (p. 153); along this line definite information may be sought. When I am conscious of a house, we should not interpose a mysterious activity of attention to unite me with the house; "da bedarf es keiner Aufmerksamkeit und keiner Verknüpfung, sondern in diesem Momente ist das Haus gewissermassen 'Subjekt'; grob, und in der früher beliebten mystischen Weise ausgedrückt, könnte einer sagen: In diesem Momente bin ich das Haus" (p. 63). Chapter five draws certain consequences from these positions; we mention only the author's view of the freedom of the will. We cannot with absolute certainty predict what we shall do in a given circumstance; this is dimly felt, and constitutes our consciousness of freedom, "der *logische Kern* jener sehr vagen Vorstellungen und Empfindungen, welche man empfindet, und meist bisher mit dem Begriffe des 'Willens' verknüpft hat, und welche den Anlass gaben, *ihn als 'frei'* zu bezeichnen" (p. 182).

Chapter six is perhaps the most interesting in the book, taking up the central category of science, causation. As meaning a mysterious production of one event from another, the concept is neither scientific nor philosophical, but popular only. In defining the scientific meaning of the concept, the author follows what may fairly be called the current view. Causality is *functional dependence*. An event is totally determined when no part of it can be changed without contradicting the expressed conditions. The goal which advancing science approaches is that of mathematics; the concept of function will some day wholly replace the old popular notion of causation. ". . . so sehen wir, dass bei fortschreitender Theoretisierung und somit Anschliessung an den theoretischen Urbau immer mehr die gewöhnliche Kausalität ausgemerzt und funktionelle Abhängigkeit an deren Stelle gesetzt wird" (p. 213). After the discussion of causation some interesting reflections are found. Of extreme Hegelian rationalism (and by implication, of some modern systems of abstract logic, since Whitehead's *Universal Algebra* is here mentioned in a footnote) we read "dass es in der Tat möglich wäre, logische Gebäude, soviele man will, ohne weitere Beziehung zur Wirklichkeit aufzustellen, und bis zu beliebiger Komplication aufzubauen. . . . Diese logischen Gebäude (logische Hohlformen nannten wir sie auch) haben dann gar keinen Bezug auf irgendwelche wirklichen Verhältnisse" (pp. 223, 224). In spite of this insistence on experience, the fundamental procedure of science is regarded as based upon "Das Recht der Freiwilligkeit." "Man kann sie [the prescriptions of logic]

ableiten aus der *Tendenz zur Ökonomie*, aus einer *Regel zur Ökonomie, diese aber ist, und muss in unserem System völlig grundlos und freiwillig bleiben*" (p. 236). In thoroughly Kantian fashion the author recognizes the *apriori:* "Alles das aber, was wir Tendenzen zum Handeln genannt haben, ist hier, genau nach I. Kants grosser Entdeckung, *apriori*, d. h. unser Aufbau ruht in seinem letzten Fundament auf solchen Festsetzungen, und da unser Aufbau das ganze der wissenschaftlichen Erkenntnis enthalten soll, so sind diese also 'vor' aller Erkenntnis dieses Aufbaues, d. h. *apriori*" (pp. 236–7). A bibliography follows, with running commentary.

While recognizing many merits in the above work—of structure, clearness, carefulness in argument, and the customary (and wholly admirable) Teutonic patience, one cannot but feel that the book may be of more advantage to the author's philosophic standing than to the advance of philosophic knowledge. There seems to be very little that is new; old positions are re-fortified, other old positions are re-refuted. The author appears as one with a definite position indeed, but one reads a treatise on *Naturphilosophie* in the hope of securing more information about the meaning of science's categories, and has a right to be disappointed at finding only one more defence of Kantianism, Machianism, or other -ism. This relative unfruitfulness is partly due, we must believe, to a certain provincialism which is rather prevalent in current German philosophy. Of recent non-German authors in this field, Poincaré and Duhem are the only ones mentioned—save for a merely nominal reference to Whitehead, Karl Pearson, and Russell. The important work of Meyerson in France,—to say nothing of the whole movement of which Bergson is the culmination—the detailed discussions of Russell in England and of Royce in our own country, upon the philosophy of science, are such as no writer in this field can afford to leave unnoticed. We remain in the hope of further work from Dr. Dingler upon *Naturphilosophie*, but upon broader lines.

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La notion d'expérience d'après William James. Par Henri Reverdin. Genève et Bâle, Georg et Cie.—pp. xxii, 221.

M. Henri Reverdin thinks that the concept of experience has been important in the history of philosophy, and has set himself in this book the task of bringing together in order as chronologic as is compatible with logical form, the contributions made to the development of the concept by William James. In the latter's thinking, M. Reverdin believes, the concept of experience was central. Concerning James's use of it he attempts to establish that James, "far from presenting at all times one and the same definition or description of experience, and a unique and single theory of experience, has regarded it from a multitude of points of view and has delivered upon it numerous and diverse pronouncements which cannot all be reconciled." Accordingly James is to be observed (1) "at the outset of his career, the partizan of empiricism," contrasting reality with possibility, championing contingency; (2) as psy-

chologist, describing 'the stream of consciousness'; (3) as epistemologist, formulating a theory of experience different from the foregoing and distinguishing between inner and outer experience, empirical truths and necessary truths; (4) as radical empiricist, defending the theory of 'pure experience'; (5) as student of the varieties of religious experience.

M. Henri Reverdin carries out this program faithfully, expounding the variation of the meaning of experience which the ripening knowledge of the years led James to make. But M. Reverdin does not see in this variation a development. He sees a contradiction. In his concluding chapter he points out, with the effect of reproach, that James did not conclude his speculations with what he began them; the meaning of experience had changed for him: by the laws of logic he had committed a crime. Alas! In this respect M. Henri Reverdin invokes the credo of the orthodox *philosophiae doctor*, and applies the canons of orthodoxy in criticism. These ordain that a thinker's life-work must be a formal consistency rather than a growth, and that logical validity is more important than material.

This is the fundamental reproach which M. Henri Reverdin levels at James —that the meaning he assigns to experience "comes and goes between two extremes: on the one side, the content of experience (l'expériencé); on the other, pure experience (l'expérience pure). . . . the latter cannot be experienced, the former is not a term toward which it moves, but only . . . a point of departure for every scientific and philosophic operation" (p. 207). And this is contradiction. In another place M. Reverdin writes . . . "in reading James I get the impression that however close he approaches to objectivism (thus our knowledge of empirical truths would be absolute: a duplicate of the object itself) he remains subjectivistic in an equal degree (all our sciences would be without direct contact with the real, in addition to being contingent, to participating in the contingency of spirit itself) and in an equal degree, finally, in his radical empiricism (a certain interpretation would entitle us to call it his "expériencisme") the distinction between object and subject appears to evaporate, either in the absorption of the object by the subject or in the absorption of the subject by the object" (p. 212).

These citations need no help from the critical commentator to show how completely M. Reverdin has failed to grasp the movement of James's thought in its transition from methodological to radical empiricism. M. Reverdin gives one the impression of a reader who has succeeded in putting words and sentences together rather than in tracing the actual relations of ideas. It is necessary only to note the implied antithesis between 'the content of experience' and 'pure experience' (q. v. *supra*) to observe how far afield from the line of James's development M. Reverdin wanders. In point of fact his comments are the consequences of dialectical reconstruction which is a truer indication of M. Reverdin's way of thinking than of William James's. And this is clearest, perhaps, in the former's charge that the latter's cosmological and metaphysical speculations are not empirically grounded for the reason that they involve the notion of contingency, the notion that the world might as

easily not have been. Contingency and possibility are central to James's vision; so is empiricism. But contingency and possibility are, according to M. Reverdin, non-empirical. Facts do not carry within themselves, he urges, and hence cannot reveal, their own contingency. Possibility is not an empirical idea, etc. M. Henri Reverdin nowhere makes clear what he himself means by possibility and contingency, and there is no reason why, taken as he means them, they should possess the properties he denies them. But James's specification of these terms is on record, and if such denotations of them as occur in "The Experience of Activity," in the chapters on causation in *Some Problems of Philosophy*, etc., had really come home to M. Henri Reverdin, he would have been in the position to spare himself the trouble of an *ignoratio elenchi*. For all that James demonstrably means by them is the perennial observation that in all change there occurs an incalculable element, gain and loss *un*implied in and not provided for by what precedes them; that novelties arise and older things lapse. The appear*ing* of an *un*implied datum designates it as possible merely: its disappear*ing* is contingency. It has not been, it becomes, it is; it is, it fades away, it is not. This is all that can be found, in a non-dialectical reading of James's accounts of possibility and contingency. A possible chicken, he says somewhere, is an actual egg. And the egg may never hatch, and if hatched, the chicken may never live out its life. In a word, contingency and possibility are given as data in the complex we call change. Generalized, the perception of them is turned into an inductive speculation concerning the whole of reality. This speculation may never be verified *in toto*, but then, what speculation is? Does this however prevent it from getting the piecemeal verification of the whole run of experience, from moment to moment? If it does, M. Reverdin ought to be able to exhibit the snows of yesteryear and the birds in last year's nest.

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Man a Machine. By JULIEN OFFRAY DE LA METTRIE. Chicago, Open Court Publishing Co., 1912.—pp. v, 216.

This reprint, with an English translation and notes, of La Mettrie's essay *L'Homme Machine* is due to the department of philosophy of Wellesley College. The appended notes and outlines are condensed from a master's dissertation by Gertrude C. Bussey. The translation also is based on a version by Miss Bussey, but has been revised by Professor Calkins, who claims responsibility for it. While the interpretative and critical notes have no more value than is to be expected from a master's dissertation, the outlines and historical notes are really useful and add to the availability of the translation, especially for class use. The translation has been made with care. One notes, however, a few slight inaccuracies, as for example, the rendering of *le grand singe* (p. 29) (the 'orang-outang') by *a large ape*, which weakens the force of the paragraph. Such slips aside (and few translations are free from them) we have to thank Wellesley College for a volume of real value.

La Mettrie's essay itself is of great interest. As against the rationalistic dualism of Descartes the empirical materialism of La Mettrie is overwhelmingly convincing. The contentions of *L'Homme Machine* are, indeed, for the most part the commonplaces of later science. Not only is sense experience immediately dependent on the mechanical functioning of our bodies, but so equally is the most abstract thought of the philosopher and the noblest virtue of the saint. A clot of blood on the brain can reduce a genius to imbecility or a hero to a human monster. One cannot with Descartes explain the reflex and instinctive acts of men as due to the mechanism of the nervous system and still maintain the independence of reason. One cannot on physiological grounds deny an immortal soul to animals and claim it for man. All living organisms are mechanisms through and through. A heart cut from the body continues to beat and after it has ceased will begin again if plunged into hot water. So a bit of muscular fiber contracts when mechanically stimulated long after its nervous connection with the brain is severed. Descartes' comparison of the body to such a piece of mechanism as a Diana in a grotto mysteriously moved by water forced through pipes which can be turned on and off at will by the operator at the center does violence to the facts. Each separate organ, each bit of tissue, functions spontaneously, and the intelligence of the behavior of the organism as a whole is nothing but the coordination and mutual adjustment of these functions. Since there is no function left for a transcendent soul to perform, we have no reason to believe in its existence. La Mettrie's doctrine is a materialism comparable to that of Tyndall or Huxley. There is only one substance in existence—namely what we call matter, but since we must attribute all these functions to matter, it is not the passive extension which Descartes conceived it to be. It is the source of unknown potentialities and its nature is incomprehensible to us.

One cannot read the essay today without coming to the conclusion that in almost every point at issue La Mettrie was justified as against his opponents; and yet one is surprised at oneself in making this admission. Most of us are descended from a philosophical ancestry far removed from the succession of physiologists to which La Mettrie belonged. We have been used to looking upon materialism as a comprehensive name for the crudest form of dogmatism; but time works strange revenges and we stand today closer to La Mettrie's empirical monism than to the dogmatic dualism of Descartes or Locke. Ten or fifteen years ago this could not have been said. Then the conflicting theories of parallelism and interactionism offered themselves as the sole alternatives. Now both are discredited, and no one today can approach the problem of the relation of mind and body save from the standpoint of the essential unity of the psycho-physical organism. GRACE ANDRUS DE LAGUNA.

Festkrift tillegnad Edvard Westermarck. Helsingfors, 1912.—pp. 304.

This is a *Festschrift* by Professor Edward Westermarck's London and Helsingfors pupils, on the occasion of his fiftieth birthday. Papers have also been contributed by his former teacher, Dr. Th. Rein, ex-Chancellor of the Helsing-

fors University, and by Dr. A. C. Haddon, and Dr. W. H. R. Rivers. While the book is largely a contribution to ethnology and anthropology, it nevertheless contains considerable material of value to philosophical workers in the logic of the social sciences, social psychology, religion, moral evolution, and kindred subjects.

"The Economic Aspect of the Intichiuma Ceremonies," by B. Malinowski, is a suggestive interpretation of Spencer and Gillen's and Strehlow's accounts of the Australian intichiuma ceremonies. Upon the ground that since these ceremonies have for their purpose the increase of the food supply, and involve organization, collective effort, regular application of energy and division of labor, the hypothesis is advanced that such ceremonies as these have been the means by which totemic peoples have been educated in the direction of economic labor. This suggestion, developed further here than by Frazer, seems plausible, and leads one to wonder if the moral aspects of these ceremonies do not deserve similar consideration.

"The Disappearance of Useful Arts," by W. H. R. Rivers, shows that useful arts once in the possession of various peoples in Oceanica have subsequently been lost by them. This is specifically illustrated in the case of pottery, the canoe, and the bow and arrow. Ordinary utilitarian explanations, like the absence of raw material and the death of craftsmen, are in most instances insufficient. To supplement them, Dr. Rivers suggests the hypothesis that religious and magical factors must also have been operative. In Oceanica it is not enough to know how to manufacture a canoe; one must also be able to perform the necessary and elaborate magical and religious rites. The disappearance of useful arts through the death of craftsmen may have been due, not merely to loss of their manual skill, but as well to the loss of the spiritual power, the *mana*, which they alone could bring into operation. This whole question is important in showing that we need not infer that islands must once have been connected with the main land because their present human inhabitants are devoid of means of transportation, and in warning us against overestimating the importance of utilitarian motives in cultures widely different from our own.

"The Clan as a Local Unit in Society," by Rud. Elander, is a defence of the position suggested by this title, taken in his volume "The Chief of the Indian Clan in North America," in reply to the criticisms of Dr. Lönborg.

Rudolf Holsti, in "Some Superstitious Customs and Beliefs in Primitive Warfare," takes to task a large group of ethical and sociological writers, both militarists and anti-militarists, who, although confessing that warfare between modern civilized nations involves too many factors to admit of so simple an analysis, have taken for granted, without troubling to investigate the facts, that among primitive peoples warfare has been a direct agency of natural selection. A large mass of evidence, supported by a great wealth of citations in the manner of Westermarck, is presented to show that natural selection operates in no such direct fashion in primitive warfare. On the contrary, magic, omens, and supernatural beliefs and practices of every sort are the

most conspicuous and dominating factors in determining the conduct and outcome of primitive warfare, the natural actions of men being reduced to subordinate influence and importance. So it cannot be claimed that the groups defended by the ablest warriors necessarily survive.

"The Conception of the Causal Relation in Sociological Science," by Gerald Camden Wheeler, argues that the cause-effect relation can be approximated in the ideo-graphic or historical sciences, using Windelband's expression only to the extent that the element of unique changes can be neglected, and identical recurrences can be assumed to take place. This can best be done in Ethnology, where the slowness of the changes among the cultures studied renders them negligible. Ethnology, however, suffers from 'flatness,' want of depth in time, in consequence of this monotony. Ethnological phenomena must therefore be reconstructed in a temporal succession in order to render a causal interpretation possible. Graebner and his school are credited with having in some measure indicated how this is to be done. But Mr. Wheeler does not make it clear how social sciences can both ignore the teleological movement in history which he regards as irreducible to a causal series, and at the same time avoid the 'flatness' mentioned.

The article in the volume having most philosophical interest, especially for the logic of the Geisteswissenschaften and for the philosophical side of social psychology, is "Die Stellung der anthropogeographischen Synthese in der Soziologie und Geschichtsphilosophie" by K. R. Brotherus. While geographical conditions have been important in determining the phenomena both of sociology and history, they are difficult of interpretation, and the investigator is prone to read his own subjective experience into the facts. For this reason the employment of geographical explanations in the literature dealing with the origin of races and the explanation of traits of national character have been largely unsuccessful, and at best can only claim such subjective verification as the inner personal experiences of the investigators can furnish. In sociology, which deals with universal laws, and not with particular events and individual experiences, geographical explanations are not available. The situation in history is different. History, unlike sociology, is concerned with particular events, and not with universal laws. In the explanation of particular occurrences the influence of geographical conditions is significant and ascertainable, though not so potent as the innate characteristics and inclinations of human beings.

This writer insists that it is impossible to universalize geographical factors. In this connection he criticizes Ratzel and others who have tried to classify forms of culture by general types of geographical surroundings, such as islands. Such generalizations overlook the individual conditions that prevail in every locality and make it different from every other. The historian as an anthropogeographer must indeed reason in terms of cause and effect, but he cannot employ them as a natural scientist would, since in his field there always enters a teleological factor that cannot be universalized.

The philosophy of history, like history itself, posits values. Just as the

historian presents fragments of historical development that correspond to ethical values and illustrate their concrete realization, so the task of the philosopher of history is to find the realization of ethical values in history considered as a whole. The hypothesis that geographical conditions help determine historical events is of no significance for the task of the philosopher of history as thus stated. For this hypothesis does not define values, but only maintains that the environment helps to determine whether these values will appear in a realized form under given circumstances. The hypothesis, however, is utilizable in the type of questions suggested by the last statement. Does the influence of geographical factors, for it must be conceded that they have some influence, increase or diminish in history? Can man overcome geographical limitations and realize values where previously it was impossible for him to do so? Light can be thrown on such questions, provided they are made definite and specific, by drawing upon the history of agriculture, transportation, commerce, and *Kulturgeschichte*. In this manner the geographical hypothesis can be related to ideas of value, and positive content can be given to the problem thus developed in the philosophy of history.

This paper seems to me to be convincing in its general position that geographical explanations at present are only practically available in helping to explain when and where values happen to appear in realized form. But Mr. Brotherus seems to me to assume a rationalistic and transcendent theory of values that does not necessarily follow. Granted that accidental conditions of time and place do not create values of which the human spirit already knows, but only determines whether man can then and there achieve them, still we may ask how these values have arisen in the human consciousness in the first place. Must not geographical conditions have played their part in the discovery of the values, for instance, that Israel, Hellas and Rome first gave to the world; and is not the reason why we may now regard them as independent of local conditions simply because they are our heritage from a past which present conditions cannot alter? Mr. Brotherus does not face the question of the origin of values in the first place, although his treatment at times seems almost to suggest a Platonic view of their ontological existence apart from occurrences in historical time. However, this is not his main point, and we may concede to him that in the present stage of development of their disciplines it is practically impossible for anthropologist, sociologist, or philosopher of history to make sweeping generalizations on the basis of geographical conditions that are really more than their own subjective impressions.

The paper by Dr. A. C. Haddon, "The Houses of New Guinea," is a careful digest of the available knowledge on this subject with reference to the influence of totemism and like institutions in this region. Gunnar Landtman, in "Wanderings of the Dead in the Folk-Lore of the Kiwai-speaking Papuans," reports his own investigations into the spiritistic beliefs of these folk, and gives one the impression that among them a religion is slowly evolving from their close relations with their departed spirits. One wishes that his report indicated more clearly the bearing of his observations upon general questions of this

sort. Hose and McDougall in their recent work upon the natives of Borneo have set an example in this respect that it is to be hoped may be more generally followed by field investigators.

The remaining articles in the volume are: "Allmänna opinionen," by Dr. Th. Rein, and papers by Professor Westermarck's pupils at Helsingfors, viz.: Thure Svedlin, "Om olika slag am tvekamp i norden"; Ola Castrén, "Samhällsuppfattningen hos Bernard Mandeville"; Rolf Lagerborg, "Platons kvinnopolitik"; J. J. Sederholm, "Hutton och Werner"; and Yrjö Hirn, "Pappersdraken."

William K. Wright.

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Beauty and Ugliness, and Other Studies in Psychological Æsthetics. By Vernon Lee and C. Anstruther-Thomson. London, John Lane, The Bodley Head, 1912.—pp. xvi+376.

The chief author of this volume is the well-known essayist—in private life, Violet Paget. Readers of her numerous volumes on art and appreciation may be in some measure prepared for this collection of more serious studies in æsthetic theory. But although the author brings to her task a wide experience and a keen æsthetic sensibility, she appears to possess few of the qualifications for scientific exposition. It was in 1897 that the essay which furnishes the title to the present volume first appeared in *The Contemporary Review*. At that time Miss Paget was but slightly familiar with modern literature on æsthetics. This she tells us in reiterated passages and footnotes. Indeed, the book is scarcely more than a commentary which aims to correct and enlarge upon the central thesis which the original article sought to maintain.

The thesis in question was based largely upon the introspective observations of Miss Anstruther-Thomson, who collaborated only in the original work. This lady appears to be a person of pronounced motor type, and the analyses of her acts of appreciation in the presence of works of art reveal a wealth of mimetic elements, chiefly of breathing and equilibrium. The conclusion first reached was that the active experience of these movements furnishes the basis for the feelings of pleasure and displeasure which characterize the sense of beauty and ugliness,—the Lange-James theory of emotion being found to supply the needed psychological substantiation for such a conclusion. The article came to the attention of Theodore Lipps, who reviewed it with sharp criticism. This served to introduce Miss Paget to the doctrine of empathy, as expounded in Lipps's familiar writings. She also made the acquaintance, then, of Karl Groos and other German æstheticians, including some experimental work, especially that of Külpe and his pupils. As a result of this enlightenment, the chief author of the work on *Beauty and Ugliness* has modified her views, and here sets them forth with becoming modesty in five supplementary essays.

The first of the group, entitled "Anthropomorphic Æsthetics," emphasizes the "discovery of the projection of our inner experience into the forms which we

see and realize as being the central discovery of modern æsthetics" (p. 17). The second essay, on "Æsthetic Empathy and its Organic Accompaniments," is a translation from the original French published in the *Revue Philosophique* (1907). In this paper Lipps's theory of æsthetic empathy is subjected to a rather extended critique, the point being made that while he is justified in his contention that empathy does not involve a sense of adequate bodily adjustment, he is misled in supposing that the *aesthetische Miterleben* of Gross is without sensory foundation. "The Central Problem of Æsthetics," a more closely written exposition of the author's modified views, appeared first in translation in the *Zeitschrift für Aesthetik und Kunstwissenschaft* (1910). The conclusions, which are in part based upon responses obtained from a questionnaire, substantiate Lipps's view that empathy as a purely 'mental' phenomenon requires no bodily sensations, nor any definitely or vaguely localized 'feelings of activity' for its existence. In general, it is noted that all such imitative movements correspond to peculiarities of the shapes as such, and "are absolutely independent of what objects or movements the lines and shapes are intended to suggest to our minds" (p. 139). Next in order comes the original essay, "Beauty and Ugliness." The fifth essay is entitled "Æsthetic Responsiveness: Its Variations and Accompaniments. Extracts from Vernon Lee's Gallery Diaries, 1901–4." In these scrambled entries, comments and *aperçus*, are to be found some of the most valuable contributions of the volume. As the author intimates, the points of chief interest to be gleaned from these notes may be classified roughly as the objective and subjective sides of æsthetic perception. She sums them up for us in two sentences:—(1) "The work of art is, so to speak, its own showman," and (2) "The total impression of a work of art is, I think, the sum of a series of acts of attention." To these two points we may devote a few words of comment and quotation.

1. It is emphasized that the true work of art is entirely self-contained. "One reason for not marking the eyeballs (of a statue) is that doing so directs the glance outwards; the statue focuses. Now a statue ought, so to speak, *to focus inwards* . . ." (p. 260). There is no need that the perception of form should be connected with our own gesture, and too great a reality is inimical to æsthetic perception. "It is the being busy, the doing something which makes bad statues unrestful, and prevents our looking at them" (p. 258). In this same connection, the author expresses doubt as to whether the Doryphoros and Apoxyomenos are standing still or walking. "In fact," she continues, "they *are not doing either* any more than a mountain. They will never be otherwise *than they are.* The 'movement' we talk of is a pure movement of lines, either of lines rising, expanding, carrying, etc., when we stand fixed before them, or of lines changing when we walk round (or in the 'frontal' ones *across*) them" (p. 258). Again, "reality, real movement, are in fact equations between our powers of recognition and a symbol, and they are therefore shifting, for the symbol alters. But the equation between our æsthetic faculty and 'form' does not alter, because there is no symbol" (p. 328).

2. The subjective side of Vernon Lee's æsthetics is incomplete. As a recent

reviewer of this volume has noted, we miss any extended consideration of æsthetic attitude. It is the process of apprehending and perceiving, rather than the process of assimilating which has chiefly occupied the author's attention. Regarding æsthetic experience, we read the following: "There exist in experience no such abstractions as *æsthetic attention* or *æsthetic enjoyment*, but merely very various states of our whole being which express themselves, among other results, in various degrees and qualities of responsiveness to works of art" (p. 243). "The action of art is not hypnotic, not monoideistic, but by making a little walled garden of the soul of all manner of cognate things, a maze, in which the attention runs to and fro, goes round and round, something extremely complex and complete, taking all our faculties" (p. 344). All culminates in the perception of form, and again we verge upon the notion expressed in *Beauty and Ugliness* that form is a peculiar category of experience:—"May not the perception of form be, normally, a sub-conscious process accompanying the conscious process of recognition of the subject of the work of art, the utility or name of the thing represented? And would not this explain our inability to say *why* we like a form, as opposed to our manifest facility in saying *what* that *form symbolizes or suggests?* In other words, are we not pursuing a necessarily unclutchable phenomenon in our pursuit of perceptions of beauty and ugliness?" (p. 270).

The "Conclusion" affords some further indications of the reconciliation which the author has sought to establish between her earlier views on mimetic activities as the essential basis of æsthetic appreciation, and the position of Lipps, which denies sensory adjuncts in æsthetic empathy. The dynamic-empathic interpretation which she now holds is regarded as due to "extremely abstract ideas of movement and its modes residual from countless individual and possibly racial experiences" (p. 353). The mimetic-organic sensations are accordingly taken into account as a possible clue to the origin of these abstractions. The actually existing and suggestive movements which may still be found in the act of appreciation are probably chiefly those of the eyes and related parts. These, she holds, may explain the starting and keeping up of dynamic empathy. Her present belief is that æsthetic pleasure is not explicable in terms of the feelings which attach to these sensations, but can be explained "on the ground prepared by such economy and replenishment of attention as is necessary for any kind of pleasant intellectual activity" (p. 358).

Although the net result of this enquiry, extending over some fifteen years, is still incomplete in its survey of the elements involved in æsthetic appreciation, we must acknowledge the earnest and unprejudiced spirit of the enquirer. It is a hopeful sign when a writer of popular æsthetic criticism of such recognized literary ability enters the field of exact knowledge for the purpose of clarifying her ideas and principles.

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The Persistent Problems of Philosophy. An Introduction to Metaphysics through a Study of Modern Systems. By MARY WHITON CALKINS. Third Revised Edition. New York, The Macmillan Company, 1912.—pp. xxvi, 577.

This book, first published in 1907, has now reached its third edition. "The present revision of the book," Miss Calkins tells us, "has been undertaken primarily in order to relate its conclusions to the more recent of contemporary philosophical writings, and, in particular, to refer to the arguments against idealism so loudly urged by those who call themselves 'neo-realists.' Advantage has also been taken of the opportunity to amend and to supplement many passages of the book." The preface gives a detailed list of the additions and changes in this edition. It also calls attention to two points of terminology: (1) "to the useful, and neglected, distinction between 'qualitatively' and 'numerically' pluralistic or monistic systems, and (2) to the use, throughout the book, of the term 'idealism,' in the widest possible sense to mean 'the conception of reality as of the nature of consciousness.'"

With regard to this last point, there can be doubt that the protest against the limitation of 'idealism' to subjectivism is amply justified. Against the latter theory the neo-realists have claimed an easy victory; yet their victory has been barren because their logic has not allowed them to advance a step beyond the position which they criticize. But it seems to me doubtful whether Miss Calkins is justified in holding that her own use of the term 'idealism,' to mean that the universe is 'personal' or 'of the nature of consciousness,' is "the widest possible." I should be inclined to use the term 'idealism' for any philosophy that holds to the continuity and inner relationship of all of the various parts of reality. Anything is 'ideal' in which the nature of a whole is bound up, and which therefore cannot be defined by itself but only in terms of its 'representative' value and functions. Whether this category leads on necessarily to the conclusion that the universe is 'personal' is a question on which individual idealists disagree; the category of an Absolute person, or an Absolute experience is not necessarily, it seems to me, the only form under which an objective idealism can be maintained.

The *Persistent Problems* is a book which has gained a permanent place for itself in philosophical literature. Whether one approves the classifications of philosophical systems in the formalistic manner of this work, one is compelled to admire the clear and scholarly character of its presentation of problems and systems, and the courage with which it maintains the importance of the great issues of modern thought. It is assumed throughout that philosophy is not something that needs to be rendered 'interesting' by any external devices, but that it is a serious business demanding our best scholarship and most persistent thought. This is a book written for students, but a book which assumes that students of today still possess the intelligence and interests of their predecessors. The appendix and notes contain much valuable information, partly bibliographical, partly in the form of exposition,

that will be found valuable for everyone concerned with the history of the modern period of philosophy.

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I. *Eine Serienmethode für Reaktionsversuche.* NARZISS ACH. Untersuchungen z. Psych. und Phil., I, 5, pp. 1–44.

II. *Bemerkungen zur Untersuchung des Willens.* NARZISS ACH. Unters. z. Psych. u. Phil., I, 5, pp. 47–49.

III. *Fortlaufende Arbeit und Willensbetätigung.* DR. ANDREAS HILLGRUBER. Unters. z. Psych. u. Phil., I, 6, pp. 1–50.

IV. *Über Willenshemmung und Willensbahnung.* DR. GUSTAV GLÄSSNER. Unters. z. Psych. u. Phil., I, 7, pp. 1–143.

I. This article is a very minute description with many diagrams of an elaborate set of apparatus used for presenting without interruption in small, variable time-intervals a series of visual stimuli, and for accurately recording both the contents and the time of speech-reactions. For this purpose the author employs a combination of phonograph and dictaphone. He presents several pages of Tables showing the calculation of various mechanical factors of operation and their constant errors. In a final paragraph he discusses the theoretical significance of such an elaborate method for psychological purposes and points out that while in the early stages of psychological experimentation the question of technique was overemphasized and the importance of the instruction to the observer was neglected, in the present stage there is a strong tendency for the opposite error, which his method tries to counteract by combining delicacy of apparatus with due consideration of the nature of the instruction (Aufgabe) and of course minute introspection.

II. This is a short reply to some criticisms of Ach's book *Über den Willensakt und das Temperament*, by O. Selz, in which Ach points out that he does not hold, as assumed by Selz, that any short or abbreviated act of will must contain all the factors which a complete or most energetic expression of will reveals. Other objections are refuted in Glässner's work (cf. IV).

III. The problem of this investigation was the study of the relation of voluntary effort to continuous mental work. The general method was to present a senseless combination of consonants and vowels of the type "tudap," which the observer first had to read aloud and then to modify aloud by interchanging the first and last consonants, thus reading "pudat." This was continued with many stimuli for ten minutes, once at a slow rate, once moderately fast, and once at a fast speed. The original reading and the identity of the three middle letters favor the perseverative tendency to repeat merely, which had to be overcome by an act of will or strong concentration of attention. The faster speeds increased the obstacle. The apparatus used was the one described by Ach in a previous article (cf. I). Four observers completed three series, one of each speed, on each of six successive days. The time of reading and of the reversed re-reading was measured and a record of errors in both was kept.

After eliminating the influence of fatigue and practice by proper fractionation of the data, the following results seem to be of greatest significance: (1) The difficulty of a mental activity acts as a motive for a stronger exertion of will or concentration of attention, because with the fastest speed the shortest reaction-times were given, and the greater subjective difficulty seems to be indicated by a larger number of errors. The reviewer is not convinced that this "law of motivation" is established by the results, because the author has not shown that the gain in speed or the increase in quantity of work does *more* than offset the loss in accuracy or decrease in quality. (2) The process of habituation as revealed in these experiments shows itself more in the decrease of errors than in an increase of quantity, and occurs more strongly but also more slowly with the more difficult task than with the easier work. (3) Fatigue may be considered as a motive for greater exertion of voluntary effort, while practice or the resulting feeling of greater ease act frequently as a check. (4) The effect of practice shows itself in a decrease of errors and seems more noticeable with the harder task. (5) The consciousness of weakness in the choleric temperament leads to a greater exertion, while the sanguinic temperament seems to work best under some external compulsion. The interpretation of many of the results seem to the reviewer somewhat strained.

IV. This investigation, like the previous, was undertaken in Ach's laboratory at Königsberg. The author proposes to make a detailed study of one or two factors of will which had been found as an incidental but important biproduct in some of Ach's previous work. The two factors are the inhibition and facilitation of voluntary effort through the reproductive and the determining tendency. The method is in general the same as Ach's, but involved many refinements in the construction and arrangement of the nonsense-material. The procedure consists of two parts. In the first part series of nonsense-syllables constructed after special patterns are repeatedly presented and memorized aloud. The number of repetitions determines the strength of the associations formed between the members of each series and may be easily varied. In the second part some of these nonsense syllables are shown again among new syllables also constructed in determined ways, and in connection with this re-exposure certain formal mental activities are required of the observer. Sometimes he has to reproduce the former preceding or succeeding associated syllable, or he has to make a rhyme to the stimulus-syllable, or he has to interchange its first and last letters. The nature of the reaction as well as its time are recorded. The relative strength of the determining and the reproductive tendency is measured by the difference between their average reaction-values and the number of errors. Many arrangements and precautions were made for the sake of eliminating certain disturbing factors and thus meeting a number of objections which Selz had raised to Ach's results.

We can enumerate here only a few of the more general conclusions.

1. The refinement of Ach's method verifies in many new ways and unequivocally the previous evidence for the inhibitory and facilitative effects of reproductive and determining tendencies, establish certain laws for their

operation, and furnish a manifold measure of unconscious resistance and its conscious symptoms of inhibition.

2. In an association of sufficient strength this resistance not only may, but must take place in a degree corresponding to the strength of the association.

3. The relation between resistance and inhibition as measured by these results may be used as an index of the voluntary effort or intensity of the determining tendency, and thus enable one to compare different individuals with regard to their strength of will.

4. An inhibition may be caused not only by a total mental complex, but also by its parts or constituents. The same holds true of facilitation.

5. The results proved conclusively that Selz's objections were eliminated in the present investigation and had been of very little, if any, influence in the previous work.

6. The pleasant feeling of greater ease is not a cause but a conscious symptom of subconscious facilitation which expresses itself quantitatively in quicker reaction-times and fewer errors.

7. Inhibitions and facilitations may occur side by side and in their general effect either partially or totally neutralize each other.

8. Ach's law that a determining tendency realizes itself the quicker and surer the more detailed it is, finds confirmation and is due in part to special facilitations, to determined apperceptions, and to adaptation (*Einstellung*) to certain secondary means.

9. These conclusions may find practical application in teaching and in various aspects of daily life, as the author indicates in some detail.

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Die Seele des Menschen. Von J. REHMKE. 4. völlig umgearbeitete Auflage. Leipzig, Teubner, 1914.—pp. 109.

The little book is the fourth edition of Rehmke's *The Human Mind*, well known to German students of philosophy. It is a short popularization of the ideas which the author develops at large in his *General Philosophy* (2d ed., 1905). When Professor Sheldon reviewed Rehmke's *Philosophy as Fundamental Science* in this REVIEW (vol. XX, no. 6), the German philosopher was not yet acknowledged as he is now. Nobody in Germany can deal nowadays with psychological problems in a scientific way without previously squaring himself with Rehmke.

From the numerous "Introductions to Psychology," Rehmke's book differs entirely. He is not satisfied by stating that we do not, and cannot possibly, know what 'soul' or 'mind' means, differing thus from Wundt, for example, who accordingly deals with the term 'mind' or 'soul' without actually making clear what he means by it. Rehmke starts by determining the exact meaning of the philosophical terms. In doing so, he shows how many philosophers came to false conclusions merely by not giving a concise meaning to the terms they used. By carefully analyzing the meaning of 'mind,' Rehmke finds that

this term can only denote an "Einzelwesen" (individual) which is in a constant working system with the body,—refuting thus by this dualistic solution Spinoza's theory of parallelism as well as the 'double aspect' theory and others. Just as the body's "Bestimmtheiten" (modes or conditions) are locality, quantity, and form, so those of the mind are what Rehmke calls the objective ("gegenständliche"), emotional ("zuständliche"), and thinking ("denkende") modes.

In the second part, the author deals with the special qualities of the mind as such. As an objective consciousness (soul, mind and consciousness being exactly the same), we perceive and reproduce,—reproducing differing from perceiving only by the absence of the nervous excitation; as an emotional consciousness, we have pleasure and displeasure; and as a thinking consciousness, we combine and separate,—thinking being used here in the sense of judging, as in logic. Finally Rehmke speaks of the mind as causative consciousness, in which case it is will, and he gives a clear distinction and explanation of the different kinds of willing.

In a time when a revival of mysticism even in the refined form of Bergsonian thought tends to obscure philosophical language, Rehmke's demand for clear definition of the philosophical terms before using them, is doubly to be welcomed. Had he lived in Kant's time, and had Kant read Rehmke, there would certainly be less diversity in the interpretations of his *Kritiken*. Of course, we do not find in Rehmke's writings those picturesque images which form the charm—and also the danger—of books like those of Bergson. Rehmke's writings are not intended to appeal to the writer's imagination,—they appeal only to his intellect, and in this respect, they cannot be praised too highly. Though a popular treatise, Rehmke's *Human Mind* is rather difficult reading, the style is not easy, but it is clear and precise, and that is the essential thing.

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The following books also have been received:

Philosophy and Religion. By HASTINGS RASHDALL. New York, Charles Scribner's Sons.—pp. xvi, 189.

The Philosophy of Bergson. By BERTRAND RUSSELL. With a reply by H. WILDON CARR and a rejoinder by BERTRAND RUSSELL. Cambridge, Bowes and Bowes.—pp. 36. 1 shilling net.

The Unconscious. By MORTON PRINCE. New York, The Macmillan Co., 1914.—pp. xii, 549. $2 net.

The Socialized Conscience. By JOSEPH H. COFFIN. Baltimore, Warwick and York, 1913.—pp. viii, 247. $1.25 net.

The Algebra of Logic. By LOUIS COUTURAT. Authorized translation by L. G. ROBINSON. Chicago, The Open Court Publishing Co., 1914.—pp. xiv, 98. $1.50 net.

An Introduction to Logic from the Standpoint of Education. By L. J. RUSSELL. London, Macmillan and Co., 1914.—pp. vii, 137. $.90 net.

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Lucidité et Intuition. Étude Expérimental. Par EUGÈNE OSTY. Paris, Alcan.—pp. 477. Fr. 8.

Kant et Aristote. Deuxième Édition Française. Par CHARLES SENTROUL. Paris, Alcan; Louvain, Institute Supérieur de Philosophie, 1913.—pp. viii, 343.

Principes de Psychologie Biologique. Par JOSÉ INGENIEROS. Traduit de l'Espagnol par R. DELPEUCH. Paris, Alcan, 1914.—pp. 395. Fr. 7.50.

La Conscience morbide. Par CHARLES BLONDEL. Paris, Alcan, 1914.—pp. ii, 335. Fr. 6.

L'Esthétique de Schopenhauer. Par ANDRÉ FAUCONNET. Paris, Alcan, 1913.—pp. xxii, 462. Fr. 7.50.

Le Problème Mondial. Par ALBERTO TORRES. Rio de Janeiro, Imprensa Nacional, 1913.—pp. xviii, 212.

Du Christianisme au Germanisme. Par RENÉ LOTE. Paris, Alcan.—pp. 364. Fr. 3.50.

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Il Metodo degli Equivalenti. Par AGOSTINO GEMELLI. Firenze, Libbreria Editrice Fiorentina, 1914.—pp. 344.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; 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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Riviste di Filosofia e Scienze Affini; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftiche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesrogane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

Vom Wesen der Wissenschaft. ERNST SAUERBECK. V. f. w. Ph., XXXVII, 4, pp. 501–33.

The three classes of scientific method are empiricism, mechanism, and evolution, of which the two last belong together as rationalistic in contrast to the empirical. Empiricism, by the principle of association, can bring everything into connection; cause and effect are external to each other and need have nothing in common. Its creed is the uniformity of nature; its applicability is limited to that which is repeated, because it denies inner relations and so depends on the number of cases in which things have been seen together. Reality which is unique and individual falls outside its scope. The basis of the rationalistic method is the doctrine that the inner relation of similarity, the 'order of ideas,' holds objectively of events. Causality is not mere sequence, but depends on underlying identity, which can be discovered in a single case. Comparison in the narrow sense of complete assimilation is the principle of mechanism; comparison in the wider sense of grouping by grades of similarity, characterizes the evolutionary method. This theory of evolution is not Darwinism: it seeks to prove a single, unilinear development according to law; it is not a timeless system, for what appears next in order to the mind, is held to be the chronological order in nature. The object is not to establish facts but to mark the ways by which man, through conclusions independent of immediate experience, can attain to reality; not to show whether in given cases there is actually such evolution, but to maintain an internal form of science, an order in the chaos of events. By this stepping out of subjective limitation into reality we can determine only general characteristics, such as repetition or uniqueness, quality or quantity, total or partial identity; that is, we do not decide whether reality actually has these characteristics, but only what it would mean if it did have them. The

question then is: How must reality in general be created, if each of the three methods could explain the whole world? Empiricism can achieve its goal only in a world of repetition, where all the cases can be counted; but this is seldom possible. Mechanical rationalism applies to a world of quantity, and of quality only in so far as it can be reduced to quantitative terms; it must therefore end where the qualitative psychical realm begins. It is of wider range than empiricism in that it applies to non-repeated cases; but it is more restricted than empiricism in that the latter applies to psychical as well as physical phenomena, if they are repeated. The historical-evolutionary, systematically chronological, comparative form of rationalism does not separate the qualitative from the quantitative, and is not limited to repetition. Its principle is that things which have the inner relation of resemblance are also objectively related. This connection may be that of mere similarity, or the order may be that of progress. Such a method explains only a world which is brought without remainder into a system whose parts throughout stand in inner relation and range themselves without exception in a single long line. But no all-embracing principle of arrangement has been given. Qualitatively different types stand unrelated; so that this is nothing but empiricism as a universal scientific method.

NANN CLARK BARR.

The Meaning of Reality. J. S. MACKENZIE. Mind, 89, pp. 19–40.

Much discussion and difference of opinion concerning the affirmations of Reality is due to ambiguities in the use of the term. The term Reality may be employed in different ways. It may be used in the sense of simple Being, or that which has a place in the Universe. It may mean definite existence, or that which has a place in the order of normal human waking experience. It may be used in the sense of truth or validity. It may be used in the sense of the positive as contrasted with the negative. Reality may also be used in an intensive sense to express the degree in which anything occupies a place in some order. Again, it may mean Actuality, or that which presents itself to us now and here as distinguished from that which is merely potential. And, finally, Reality may mean that which is substantial or independent. There are several negative theories which either altogether deny the validity of the conception of absolute Reality or the possibility of knowing anything about it, or else they throw doubt upon its validity or the possibility of knowing it. These are Nihilism, Agnosticism, Pragmatism and Scepticism. There are also four theories which affirm the possibility of knowing Reality. The first is Dualism, which usually takes the form of one of the following antitheses: force and matter, form and matter, universal and particular, mind and body, etc. The second, Monism, is an attempt to escape from dualism. Its chief forms are pluralistic or singularistic Objectivism, pluralistic, singularistic, or purely subjective Subjectivism, and Absolutism under various forms. The third is Pure Pluralism of which the New Realism is the chief type. And, finally, the fourth positive theory of Reality is Cosmism which involves a

plurality, the members of which are combined in accordance with a definite law.

HENRY BENTSON.

Natural and Rational Selection. G. C. HENDERSEN. Inter. J. of Ethics, XXIV, No. 2, pp. 127–147.

For Thomas Huxley the cosmic process in the organic world and the social process in the human world were different processes. Regardless of this, some students who claim to be followers of Huxley contend that the key to human history is the struggle for existence and the survival of the fittest. In human evolution a new factor, self-consciousness, enters. Self-consciousness is the power of looking before and after, of conceiving ends and constructing ideals. The following are the important characteristics of natural selection and of rational selection. Natural selection is a struggle between members of the same and of different species. The struggle involves the extinction of the unfit and the survival of the fittest. It yields greater perfection of form. It is a blind mechanical process. Rational selection is open-eyed and purposive. To be sure mechanism operates in human life, but a consciousness of ends is also a determining factor. This distinction between blind and purposive evolution supplies the fundamental difference between organic and human evolution. The different methods of selection yield different results. Natural selection is a slow murderous process which involves the disappearance of the less fit. Rational selection may be and often is a rapid humane process involving a struggle between ideas, not between men. This contrast shows that rational selection is more worthy of the dignity of human life than natural selection. However, in striving to obtain rational selection, we must not forget that at any time we may be involved in natural selection, that the struggle is not merely between ideas but sometimes a death struggle between human beings. Strength and swiftness are developed by natural selection, and if these qualities are imperilled by a corrupt civilization it would seem better to return to the old struggle of natural selection for a time rather than to lose these qualities altogether. In the past the organic theory of evolution has been applied to human development too widely. Evolution, to be sure, applies to human affairs as well as to other forms of life. However, a theory of evolution which will explain both organic and human life must be more comprehensive than the one we have at present.

C. M. HOBART.

Introduction générale à l'étude psychologique des phénomènes religieux. M. DE MUNNYNCK. Rev. des Sc. Ph. et Théol., VIII, 1, pp. 5–50.

Current psychological literature, especially in America, shows a tremendous interest in religious psychology; but it is important to add that there is nothing less religious than this 'psychology of religion.' Some who prosecute this study, as William James, have a 'pragmatic sympathy' for religion, more are openly opposed to it and disposed to treat it as an abnormal, infantile or even

socially dangerous mental phenomenon. Particularly from the standpoint of Catholicism would the conceptions of these writers have to be excluded from what is understood by the religious. Some writers have claimed, with a show of reason, that an attitude at least of emotional indifference is necessary to the scientific study of religious phenomena; but a juster consideration will show that the irreligious psychologist is at a distinct disadvantage in the study of religion. Too many of the psychic data are inaccessible to him. His study is limited to the mere manifestations, which afford a study valuable indeed, but necessarily incomplete, and his interpretations are naturally inadequate. We can never expect to have a real psychology of religion until it is constructed by religious psychologists. The subject-matter of religious psychology is of course religious phenomena, but what is to be included under this head is a matter of general controversy. Many thinkers of the past—Empedocles, Lucretius, Hobbes, Feuerbach—have defined religion in such a way as to destroy it by the very definition. Among our contemporaries, Guyau regards it as a phenomenon of primitive mentality from which adult humanity must necessarily free itself; Sergi considers it a morbid manifestation and an obstacle to human progress. Even those whose attitude has not been hostile have differed widely as to what constitutes the core of religion. The age of the 'Aufklärung' eliminated everything but a purely intellectual 'natural religion.' Today, the commoner custom is to find its center in some feeling or other or in the volitional nature. To get at a true definition, it is necessary to view our conscious life as an organized whole. It is all bound together by unifying principles, ruling ideas or psychic vortices as it were. Such principles are professional obligations, ties attaching us to family or groups of friends, recreational interests, etc. A hierarchical series of these principles gives our lives a high degree of solidarity. The richest and most complete life is the most perfectly organized. But different lives are organized on different planes. Despicable creatures find the dominant principle in sensibility. Higher principles are love of glory, ambition; above these is the love of truth, and we find natures unified by intellectual motives. But there is a higher nobility; Faust was forced to put at the origin of things, neither Word, Sense nor Power, but Action. Truth has not exhausted its nature until it expresses itself in the Good. The highest human principle of unity is in the Will. We can rise above this only by rising above ourselves. This it is given to us to do, and here we find the essence of religion, to unify our lives through a principle outside ourselves, under the influence of divinity. As in other sciences, a logical division and classification of the subject-matter will be necessary to the complete and systematic treatment of the psychology of religion. Current expositions show a sad deficiency in this respect. A *General* subdivision of the subject should treat of the *nature* of religious phenomena (already discussed), their *degree*, from irreligion to sainthood, and their *origin* and *psychologic basis*. This should be followed by a *Special* subdivision, taking up *general effects*, both individual and social, and each of these both normal and pathological; then *differential effects*, connected either with the combat against

evil (conversion, repentance, etc.) or with the production of good (mysticism, etc.). The Method also of this science should not be notably different from that of others. In the observation of facts, a wise use of questionnaires would be its principal resource, and the facts when obtained should be elaborated and systematized in the light of the particular purpose in view. A crucial point in the development of religious psychology must be the delimitation of its field and aims in relation to those of theology. The psychological 'explanation' of the phenomena can have no bearing whatever on their supernatural import. With this theology alone can deal. When each of these two sciences is restricted to its proper domain, they will be found not to conflict, but each will be an invaluable aid and supplement to the other.

F. H. KNIGHT.

From John Stuart Mill to William James. P. B. VOGT. Catholic University Bulletin, XX, 2.

James and Mill may be studied in relation to each other because Pragmatism is the latest exponent of the empirical movement in whose development Mill also took part. As Mill reduces logic to subjective psychological relations, so James regards concepts as the means of classifying impressions, not as having objective validity. For both thinkers, universals are mere experimental truths, arrived at by induction from the evidence of sense. The question concerning the origin of knowledge is purely psychological-genetic; the only standard and source of knowledge is experimental induction. James is, therefore, one with Mill in denying that laws of thought are independent of subjective psychical experience; and in affirming psychology to be the ultimate source and foundation of truth, thus reducing all logical laws to psychological ones. For James, truth is not the static relation of correspondence between our minds and reality but is the working of an idea in relation to the other experiences in which it plays a part; truth being psychologic, remains subjective and relative. Mill's interpretation of the correspondence theory is also subjective; to appeal to the test of facts in order to ascertain truth, means to appeal to our permenent possibilities of sensation. For both James and Mill, therefore, truth is a relation within our changing experience; it is relative, unstable, dynamic. Although James opposes the associationism which resolves consciousness into its elements and exhibits knowledge as arising from the combination of these data, he also arrives at the conclusion that reality's sense experience and reality itself are for us identical. Finally, Mill's attitude was essentially Pragmatic in that he endeavored to have a method rather than a closed system.

NANN CLARK BARR.

L'innéisme Kantien des fondements mathématiques. LOUIS DE CONTENSON. Rev. de Ph., XIV, 1, pp. 16–37.

This is the first of three articles on the 'apriorité' of mathematics. Kant's whole philosophy rests on his scepticism of the senses, leading him to distinguish between representations and things-in-themselves and to regard the

objective aspect of things as eternally problematic. Assuming a principle as little demonstrable as that of the fidelity of the senses from which he recoils, viz. the possibility and necessity of certain judgments, Kant reasons thus: certain ideas exist; sense ideas are uncertain; therefore, certain ideas are a priori. He revives then the Cartesian ideas, possessing a necessity not derived from experience, and true precisely because not so derived. Kant's trouble lies in his blind acceptance of the traditional belief in the apodictic certainty of mathematics. Without establishing this certainty or justifying his belief in it, Kant seeks to ground his faith by assuming the existence of synthetic judgments a priori. Reversing the normal order of things, Kant deduces from the categorical imperative God as the postulate of morality, and from the supposed certainty of mathematics the certainty of its fundamental axioms. Kant believed that all mathematics was as certain and exact as the elementary mathematics which alone he knew, and which like all elementary science was schematic, sacrificing complexity for simplicity and representing the inexact as exact. Kant's discussion of the triangle indicates that he did not understand mathematics. He was ignorant of the notion of "infiniment petit"; also of "géométrie infinitésimale," without which it is impossible to construct geometric space; also of "l'algèbra supérieure," which alone yields adequate knowledge of the notion of "continuité," the most indispensable concept of mathematics. Kant's deduction of discontinuity is inadmissible. He confuses the notions of "grandeur" and "nombre."

Kant deduces his fundamental concept, "la grandeur," from the concepts of time and space, which for him are subjective, though he frequently furnishes us with arguments which prove that they are not absolutely subjective, not imposed on nature by the understanding, but imposed necessarily on the mind from without. Time "en soi" has an objective reality as constituting the possibility of change, and space "en soi," of movement; but since the concepts of space and time are subjective and analogous to images that correspond to real objects, they cannot serve as a basis of an apodictic and universal science. Kant thought that knowledge of the self establishes the existence of time though not that of space. Knowing the self is an act of pure thought in which sensibility plays no rôle. Kant, influenced by his fundamental principle that we never know things-in-themselves, makes the absurd error of supposing that time, and therefore sensibility, plays a part in self knowledge.

Hegel preserves the subjectivity of time and space and secures certain mathematical judgments, though not universally valid ones. Hegel's assumptions as to space and time are gratuitous if not false. The remaining alternative is to consider space and time as real things whose concepts are given us by experience and mathematics as a "Science expérimentale," and therefore not apodictically certain. Therefore the fundamental principles of mathematics are not based on time and space or else they are a posteriori.

RAYMOND P. HAWES.

Religion et raison. E. Boutroux. Rev. de Met., XXII, 1, pp. 1–17.

The isolation of religion and reason in watertight compartments does not solve the problem of their relation, and neither the pragmatic method of harmonizing them, nor the conceptual method of setting up and comparing their definitions, satisfactorily reveals this relation. History shows that religion and reason, far from being contradictory or mutually exclusive, influence each other continually and are drawing towards a reconciliation, *e. g.*, religion was responsible for the advance of reason from a purely logical, abstract reason to a reason furnished with principles able to comprehend the highest and most diverse forms of being. Abstract reason of syllogistic logic, based on the principles of identity and contradiction, deals with "concepts"; concrete, living reason, with "ideas." From the standpoint of "concepts" religion and reason are mutually exclusive or the one reduces to the other; from that of "ideas" they are mutually penetrating or complementary: their relation is one of partnership which preserves to each, however, its reality and individuality. But neither as "concept" nor as "idea" is reason self-sufficient. Kant and Hegel have shown that the synthetic function of reason presupposes a principle higher than itself. The self-transcendency of reason implies that it draws on the energy of some superior source, the source of individuality and worth. Reason stands in need of religion's fundamental dogma, the reality of God and of his relation to the world. Religion puts an end to reason's hesitations and doubts and makes possible the perfection reason aspires to. Religion is not the contemplation of a perfection, transcendent and inaccessible; it is the kingdom of God realizing itself on earth; it is God calling to men and communicating to them the power of obeying his commands. God is not a stranger to the world; He is loved as father. Religion satisfies reason if it is set to the same problems that our science and life set for our reflection. The central characteristic of the true religion is its ability to fortify the human mind and make it more productive in the execution of its natural human tasks. Religion stimulates more profound and effectual thinking, while reason is essential to religious conviction and belief. Thus reason to realize itself seeks the support of religion, while religion to accomplish its work requires reason's aid.

Raymond P. Hawes.

Some Preliminary Considerations on Self-Identity. Harold H. Joachim. Mind, 89, pp. 41–59.

Foremost among the "unquestionable facts" in the world are our own Individuality and Self-Identity. What then do we mean by Self-Identity? If we say that the "I" is an embodied spirit, we must recognize the fact that the body is constantly changing. Therefore, Self-Identity can not be the spirit plus the body. All attempts to explain the Identity of the body from the point of view of Chemistry, Biology, and monadic centers of force must fail. The identity of our bodies through the different moments of their life is like a theme with variations. Identity itself is differentiated, itself changing

and developing: the different stages and the successive states are its variations and the phases of its being. The unity and identity of the body are "ideal." The real "I" is spiritual. But the concrete embodied spirit is not an incommunicable and impenetrable individual which exists merely to himself. We share in common joys and sorrows, hope and enthusiasm. We strive towards a common ideal and give expression to a common love. This tends to show that our spiritual selves are the individuations of a universal spirit. All change, action and reaction, is the manifestation of an immanent spiritual principle. We must recognize this universal spiritual substance which is self-individuated, self-appropriated and self-manifest as the personality of man. There is ultimately no past or future for the real "I"; "I am."

HENRY BENTSON.

Some Antecedents of the Philosophy of Bergson. ARTHUR O. LOVEJOY. Mind, N. S., 88, pp. 465–483.

Bergson's metaphysics is based on two Cartesian propositions and one Kantian proposition. The Cartesian portion is the division between extended things and consciousness, and the contention that consciousness is known with the greater certainty. The Kantian portion is that Time is the essential characteristic of consciousness. Bergson's problem is the determination of the attributes of time, especially in its relation to quantity. His solution is that time, and therefore consciousness, is unrelated to quantity. This view of Time did not originate with Bergson. The school of Ravaisson and the school of Renouvier had, before Bergson, obtained the same solution to the same problem. Ravaisson, in his *Essai sur l'habitude*, holds to the four fundamental propositions of Bergson's theory of time: (1) that to think of a quantity or number as constituted by distinct elements is to consider the parts or units as coexistent; (2) that coexistence can be considered only spatially; (3) that to apply extension to anything is to think of it spatially; (4) "tout ce qui est de l'espace est hors du temps." Bergson's real time is secured by drawing the consequences of propositions already developed by Ravaisson. The essence of our time experience is secured by Ravaisson in his Ego, by Bergson in his pure duration. Even closer correspondence to Bergson's arguments, and to the conclusion he reaches in his '*Essai*' of 1889 is to be found in the school of Renouvier. Dauriac, of this school, held that temporal experience could never lead to notions of mathematics, and quantity whether discrete or continuous could not be applied to the psychic order. The arguments used by Dauriac in contending for his position suppose the main premisses upon which Bergson's arguments for real duration are based. Just as Dauriac foreshadowed the first chapter of Bergson's *Essai*, Noel foreshadowed the second chapter. Noel contended that the concept of coexistence was necessary for the treatment of a series of events in a fictitious manner as simultaneous. Noel also said that inner duration is really a numerical succession. Although Bergson denies this, nevertheless he takes it as true. Bergson's position is: (1) the most certain reality is our conscious existence, (2) this existence is essentially tem-

poral, (3) the problem is to determine the nature of the temporal, (4) the temporal is usually misrepresented due to the thinking of time spatially, (5) the temporal is truly non-quantitative and unrelated to number. The first four propositions were held generally by the neo-criticist school and the fifth had been advanced by Dauriac and Noel. This fifth characteristic is based upon three supports. First, psychological observation of mental states must be compared not as quantities but as qualities. The second support relates to the logical relation of number, coexistence and spatial extension. The third support is that such a view of duration allows us to escape the paradoxes of the continuum and at the same time to hold to the reality of time. The first support was advanced by Dauriac, the second by Ravaisson and Noel, and the third by the neo-criticists in general. The assumptions and reasonings of the first two chapters had been analyzed and refuted by Pillon half a dozen years before the book was written.

C. M. HOBART.

Self-Sacrifice. J. B. BAILLIE. The Hibbert Journal, XII, No. 2, pp. 260–282.

In genuine self-sacrifice, the individual deliberately gives up some good to himself. Merely giving up a good is not self-sacrifice. The good must be sacrificed so as to attain a positive result. This positive result must be good or the act of self-sacrifice becomes an evil one. This result which the sacrifice intends to secure must not be merely the welfare of the agent making the sacrifice. The end realized by the sacrifice must further the welfare of human personality, and this welfare must be greater than the good sacrificed. The agent must not sacrifice his highest good, that is his moral personality, under any consideration. All sacrifice is subordinated to the conservation of personality. The total sacrifice of self leads to self-sophistication. We will now consider the moral basis of self-sacrifice. What right has an individual to indulge in self-sacrifice, and how is such an indulgence justified morally? In self-sacrifice an actual good is renounced, an actual loss occurs. The act cannot be deferred self-interest. The conception of the insulated individual yields the result that self-sacrifice is immoral. In actual life self-sacrifice is approved on a moral basis. This justification cannot be secured by an appeal to religion. The point is we do not have the insulated individual. We start with community life in which the individual is only a part of the greater whole. No individual is called upon to bear the whole burden of social life. The fulfilment of our parts constitutes us as moral beings. This view means that the common welfare is more enduring, more universal and a more complete realization of good than the individual's good. This is the principle which lies at the root of self-sacrifice and gives us the only moral justification of such an act. The sacrifice of self is made for the social life. The justification of any act is that the good of the whole is advanced. No individual can demand self-sacrifice as a duty from another individual. An individual may require another to realize his good, but he can never require him to renounce his good. Whether the individual receives any reward by making the sacrifice is not

important. Self-sacrifice presupposes other forms of good and therefore can not be either the only source or form of goodness. The highest end of man is the realization of human personality. In religion all moral ideas are recast and revalued. A moral idea in the sphere of religion is taken in its most perfect form. Self sacrifice when thus considered from the religious point of view emphasizes the unity of man and man in the common life. Self-absorption in this life is the essence of religion. In its religious aspect self-sacrifice is the outcome of love. It is this religious love which has led and still leads to the greatest deeds of self-sacrifice.

C. M. HOBART.

Principienfragen der Denkpsychologie. RICHARD HÖNIGSWALD. Kant Studien, XVIII, 3, pp. 205–245.

The history of the 'Back to Kant' movement has been largely the history of a demarkation of the critical from the psychological field. Throughout the movement, psychologism has appeared as the arch enemy of critical thought, though unable at its best, or worst, to undermine the permanent position of that thought. Whether psychologism as such is possible depends upon its relation to psychology, upon the possibility of the conditions of psychology, especially of thought psychology. Much is being said of the inexpressibility of the psychical process, but it can be in no case a principle of psychological insight; nor can the idea of a 'negative' psychology pave the way for the epistemological investigation of a science of the psychical. The indispensable presuppositions of thought psychology are the concept of thinking and the thought activity of the object of research. The question, "What is thinking?", cannot be answered in the terms of psychology without going back to the hopeless quest for an unthinking substrate of thought and the gross errors of conception and association psychology. An objection to thought psychology is raised under the false supposition of an antithesis between the experience of thought and its representability. The whole problem of thought psychology is involved in the analysis of the force of meaning, which is constitutive of thought experience. The system of relations which defines meaning as an experience of significance makes possible the judgment form, in itself only a moment of the validity-determination. On the other hand, the idea of validity-determination becomes intelligible only as the fulfillment of the legitimacy of the judgment form. Logic and epistemology as well as psychology are subject to the law of this correlation. They are bound to break down if it is assaulted. This is precisely what psychologism does. It denies the concept of the forms of psychology when it destroys the relation through which alone that concept becomes possible. When with psychologism one ceases to consider the judgment form a correlative and, in such sense, independent factor of the experience of meaning, one destroys the meaning-reference, which has been seen to be a constitutive element of thought experience. Finally, thought-psychology is not only an object, but also a vehicle of the critical

method. In a new form it vindicates the imperishable value of Kant's problem formulation.

ANITA FREDERICA DE LAGUNA.

Pragmatic Realism—The Five Attributes. JOHN E. BOODIN. Mind, N. S., 88, pp. 509–525.

Substance has come to mean the postulate of totality; that every fact under certain conditions makes a difference to other facts. If these differences concern us they must be able to become differences to a reflective consciousness. The systematizing of these differences yield certain irreducible attributes. These attributes are stuff, time, space, consciousness, and form. The question of attributes goes back to Spinoza. He is inconsistent with his infinite attributes. By hypothesis they make no difference to thought, yet they are assumed. He is also inconsistent in considering the relation between thought and extension. Extension is conceived and thus does make a difference to thought. When he treats the problem of knowledge, mind becomes the consciousness of bodily actions; but when he treats the problem of conduct, all agency is attributed to systematic thought. Modern science has three attributes: space, time, and energy. However science has failed to define these. Science has neglected the attribute of consciousness. Science also assumes that facts can be explained by a finite number of principles. Being is the stuff character of reality. Reality need not be reflective in order to make a difference to experience. Unnoticed experience and physical processes affect our reflective consciousness. Stuff is observed directly. The other attributes can only be observed as they affect the stuff structure of the world. Stuff structure includes the purposes of the self. How is time related to the realization of our purposes? Time is real because it necessitates new judgments. The differences which time makes cannot be stated in terms of the intervals of the clock. Real time accounts for changing values and shifting positions. Space is of such a nature as not to interfere with movement. For practical and scientific purposes we assume a space zero. Another characteristic of space is that of distance. Real space must not be confused with the perspective furnished by psychology and logic. Consciousness is a unique attribute of awareness or interest. This awareness is a neutral light. The conditions of awareness are the object context and conative tendencies. Consciousness must not be confused either with its conditions or with its species. Since the awareness is colorless, its color is due to psychological processes. Form is direction. This attribute gives place to such a question as: Is there direction in this process? Our finite meanings are very fragmentary. The relative is not satisfactory. We desire finality. Form is required to give meaning to our fragmentary purposes. Since form is thus needed, it is as real as the purposes. These attributes differ from those of Spinoza in that all these presented here affect our creative purposes.

C. M. HOBART.

Die Entstehung des Stoichen Moralprinzips. GOTTFRIED BOHNENBLUST. Ar. f. G. Ph., XX, 2, pp. 171–187.

This paper discusses the origin and the development from Zeno to Marcus Aurelius of the Stoic maxims of consistency and conformity to nature. Diogenes Laertius and Stobaesis disagree as to the relations, both logical and historical, between the "formal" principle of the harmonious life (*τὸ ὁμολογουμένως ζῆν*) and the "material" principle of the life harmonious with nature (*τὸ ὁμολογουμένως τῇ φυσει ζῆν*). There is doubt as to whether Zeno used both expressions, and if so, whether they were equivalent for him, and as to what his conception of nature really was. The difficulty of the problem is due to the eclecticism of the Stoics, their readiness to employ an old formula as a practical maxim for conduct, without considering the theoretical implications. The result of the argument goes to show that Zeno used both formulas, and that they persisted through the whole history of the school, although they were greatly modified by the four "heretics." For the most part the two maxims were regarded as equivalent, but the emphasis tended to fall upon the more definite one on account of the increasing importance of the conception of the unity of nature in a principle underlying all her changes. But this view of the unity of nature was not always the same. With Zeno and Cleanthes it was a religious-aesthetic feeling derived from the half mystic theories of Heraclitus. Hence their attitude to ethics was intuitionistic. Chrisippus was the first to suggest that the empirical observation of nature could give a guide to conduct. His interpretation of the unity of nature, then, was scientific, and his ethics empirical in spirit. But even in this most definite determination, the principle of conformity to nature was only of negative value; it could not prescribe the positive content of life. Perhaps for this reason the later Stoics found the sanction for the traditional maxim not in the scientific, but the emotional conception of nature, in the feeling of unity with the cosmos which finds its sublime expression in the words of Marcus Aurelius.

ANITA FREDERICA DE LAGUNA.

Sociology and Psychology. J. H. LEUBA. Psych. Bul., X, 12, pp. 461–467.

Durkheim, opposing Individual Psychology to Sociology, holds that the origin and development of religion are exclusively a concern of Sociology. If for him Sociology includes or is synonymous with Social Psychology, his position is unobjectionable. The origin and development of religious phenomena cannot be completely understood when merely "observed from the outside," without the assistance of a psychological interpretation of the states of consciousness they express. Sociology must not confine itself to an examination of man's external activities; the introspective method is indispensable. Individuals reflect but also modify social life; they are "centers of creative energy." "Sociology is a psychological science of which the observation of social institutions is merely the starting point," for since the units of societies are conscious beings, the ultimate explanation of social life must be in terms of consciousness.

RAYMOND P. HAWES.

NOTES.

We record with regret the death from pneumonia on February 20 at the age of 47 of Dr. Arthur Henry Pierce, for the past fourteen years professor of psychology at Smith College. Dr. Pierce was a graduate of Amherst (1888), took his M.A. (1892) and his Ph.D. (1899) at Harvard, and also studied at the universities of Berlin, Strassburg and Paris (1894–1897). He was the first incumbent of the Kellogg University Fellowship (Amherst), which he held from 1894 to 1900. His chief work, *Studies in Auditory and Visual Space Perception*, was published in 1901. Among his other publications the most celebrated is his "Appeal from the Prevailing Doctrine of a Detached Subconsciousness," which appeared in the Garman memorial volume in 1906. He was for three years secretary of the American Psychological Association (1908–1910) and for three years thereafter a member of its Council. During the past four years he edited the *Psychological Bulletin*. He leaves the memory of an inspiring teacher, a sane and conscientious investigator, an efficient and tactful administrator and, above all, a fine and generous personality.

Professor George Stuart Fullerton has closed his lectures as exchange professor from Columbia University to the universities of Austria. At the end of the final lecture at the University of Vienna, it was announced by the Dean that Professor Fullerton had been elected an honorary professor of the philosophical Faculty of that University. This appointment carries with it the permanent right to deliver lectures at Vienna.

The annual meeting of the Western Philosophical Association was held at the University of Chicago on April 9 and 10. Professor B. H. Bode delivered the presidential address on "The Psychological Doctrine of Focus and Margin," which will appear in the July number of this REVIEW. One session was devoted to a discussion of the Neo-Realistic doctrine of Relations. Another discussion, led by Professor Fite, was concerned with the subject of Natural Rights. At the same time there took place a meeting of the Conference on Legal and Social Philosophy. The two societies met in joint session for the discussion of "Rule versus Discretion."

It has been decided that the next meeting of the American Philosophical Association will be held at Chicago during the last week of December.

Professor E. C. Wilm, of Wells College, will next year have charge of the departments of philosophy and psychology at Bryn Mawr, during the absence of Professors Leuba and de Laguna.

We give below a list of articles in the current philosophical periodicals:—

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHOD, XI, 4: *M. E. Haggerty*, The Twenty-second Annual Meeting of the American Psychological Association.

XI, 5: *W. H. Sheldon*, An Empirical Definition of Value; *Edward K. Strong Jr.*, Two Factors which Influence Economical Learning; *Walter B. Pitkin* Concepts and Existence.

XI, 6: *Ralph Barton Perry*, The Definition of Value; *W. B. Cannon*, Recent Studies of Bodily Effects of Fear, Rage, and Pain.

XI, 7: *Arthur R. Schweitzer*, Some Critical Remarks on Analytical Realism; *Jared S. Moore*, Value in its Relation to Meaning and Purpose.

THE PSYCHOLOGICAL BULLETIN, XI, 2: *W. V. Bingham*, Report of the Secretary of the American Psychological Association; *W. C. Ruediger*, Report of the Secretary of the Southern Society for Philosophy and Psychology.

THE BRITISH JOURNAL OF PSYCHOLOGY, VI, 3 and 4: *William Brown*, Freud's Theory of the Unconscious; *T. H. Pear*, The Analysis of Some Personal Dreams, with reference to Freud's Theory of Dream Interpretation; *Carveth Read*, The Conditions of Belief in Immature Minds; *Frank Smith*, An Experimental Investigation of Perception; *C. W. Valentine*, The Color Perception and Color Preferences of an Infant during its Fourth and Eighth Months; *T. H. Pear and Stanley Wyatt*, The Testimony of Normal and Mentally Defective Children; *Charles Fox*, The Conditions which arouse Mental Images in Thought; *Godfrey H. Thomson*, On Changes in the Spatial Threshold during a Sitting.

THE PSYCHOLOGICAL REVIEW, XXI, 2: *H. C. Warren*, The Mental and the Physical; *C. Spearman*, The Theory of Two Factors; *A. H. Pfund*, On the Use of the Rotating Sector in Photometry; *M. LeRoy Billings*, The Duration of Attention; *Edward K. Strong, Jr.*, The Effect of Size of Advertisements and Frequency of their Presentation; *F. L. Wells and V. A. C. Henmon*, Concerning Individual Differences in Reaction Time.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, XX, 2: *Branislav Petronievics*, Über Herbarts Lehre von intelligiblem Raume; *Gottfried Bohnenblust*, Die Enstehung des stoischen Moralprincips; *A. Coralnik*, Zur Geschichte der Skepsis, I, Franciscus Sanchez; *Eckart v. Sydow*, Das System Benedetto Croces.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, XX, 1: *Felix Rappaport*, Zur Logik des Wollens; *Albert Sichler*, Zur Verteidigung der Wundtschen Psychologie. Eine Metakritik; *S. Werner*, Wille und Willensfreiheit; *Fritz Dehnow*, Wesen und Wert des Rechtsgefühls; *Ernst Barthel*, Kausalforschung und Metaphysik; *O. Hilferding*, Zur Analyse Menschlicher Denkarten.

ZEITSCHRIFT FÜR PSYCHOLOGIE, 67, 5 u. 6: *K. Koffka*, Beiträge zur Psychologie der Gestalt- und Bewegungserlebnisse; *K. Koffka*, Einleitung; *F. Kenkel*, Untersuchungen über den Zusammenhang zwischen Erscheinungsgrösse und Erscheinungsbewegung bei einigen sogenannten optischen Täuschungen.

68, 1 u. 2: *Luise Schlüter*, Experimentelle Beiträge zur Prüfung der Anschauungs- und der Übersetzungsmethode bei der Einführung in einen fremdsprachlichen Wortschatz; *Max Meyer*, Vorschläge zur akustischen Terminologie; *Theodor Ziehen*, Kurze Bemerkungen über Reaktionsversuche bei Lappen und Samojeden.

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THE PSYCHOLOGICAL DOCTRINE OF FOCUS AND MARGIN.[1]

IF it is true that misery loves company, those persons who feel despondent over the present situation in philosophy may console themselves with the reflection that things are not so bad as they might be. Our friends, the psychologists, are afflicted even as we are. The disagreements of experts as to both the subject-matter and the method of psychology are as fundamental as anything that philosophy can show. A spirit of revolt is abroad in the land, and psychology is once more on trial. The compact which provided that psychology should be admitted to the rank of a natural science, on condition that it surrender its pretension to be the science of the soul and confine itself to the study of consciousness, is no longer considered binding. The suspicion is growing that consciousness is nothing more or less than an attenuated form of the soul that it pretends to displace. Consequently the psychology without a soul to which we have just become accustomed is now attacked on behalf of a psychology without a consciousness, on the ground that this latter standpoint alone can give assurance against entangling alliances between psychology and metaphysics.

From the side of philosophy this situation is interesting, not only to such as may crave the comfort that springs from the spectacle of distress, but also to those who take a more hopeful view of present-day tendencies. The question that is at issue is fundamentally the question of the nature of consciousness, which

[1] Delivered as the presidential address at the meeting of the Western Philosophical Association, University of Chicago, April 9, 1914.

is quite as important to philosophy as to psychology. On the one hand it is maintained that psychology has to do with consciousness and that its distinctive method is the method of introspection. On the other hand it is urged that psychology is not a science unless the existence of consciousness is denied or at least ignored, and that the method of introspection is a delusion and a snare. The two standpoints are not always clearly formulated, nor can we say that every system of psychology is true to type. It is, in fact, the lack of clearness in the fundamental concepts that makes the status of psychology a matter of so much uncertainty.

The situation presents an apparent anomaly. Both parties profess to deal with facts of observation, yet the claim of the introspectionist that he observes facts of consciousness is met by the assertion of his rival that there is no consciousness to be observed. How can this be, unless we assume that introspection presupposes an esoteric principle, like the principle of grace in religion? It seems evident that we have to do here with some deep-seated misconception regarding the facts that are supposed to constitute the subject-matter for observation and description.

A common procedure on the part of introspectionism is to assert the existence of consciousness as something which is indeed indefinable but which admits of observation and description. But this procedure is no longer justified. In the first place, the assertion that consciousness exists is not the statement of a fact but the designation of a problem. What is the nature of the fact that we call consciousness? If the common sense individual, who assents so readily to the proposition that we all know consciousness, be asked to differentiate between consciousness and the objects of consciousness, he is dazed and helpless. And, secondly, the assertion of indefinability involves us in a difficulty. The indefinability of consciousness has sometimes been likened to that of space, but in this latter case we find no such confusion between space and the objects in space. It is clear, however, that if consciousness is not something distinguishable from objects, there is no need to discuss consciousness, and if it is distinguishable, it must be distinguished before

we are entitled to proceed with observation and description. Definition is indispensable, at least to the extent of circumscribing the facts that are to be investigated. Moreover, if consciousness cannot be defined, neither can it be described. What is definition, after all, but a form of description? To assert, in effect, that consciousness is indefinable because it is indescribable, and that for this reason we must be content with description, is both a flagrant disregard of consistency and an unwarranted abuse of our good nature.

This difficulty leads on to another, for doubts, like lies, have a singular propensity to breed more of their kind. If consciousness is something that everybody knows, why should it be necessary to look to the psychologist for a description of it? If the study of consciousness brings to light any new fact, that fact by definition is not a conscious fact at all, and consequently is not the kind of thing that we set out to describe. Consciousness, in short, cannot be analyzed; it cannot be resolved into elements or constituents. It is precisely what it is, and not some product of our afterthought that we are pleased to substitute for it.

Perhaps all this will have the appearance of lengthy and laborious trifling. Moreover, it may seem indecent to make so much of difficulties that are possibly incidental and unimportant, to the neglect of the results that have actually been accomplished. Why should we quibble over the meaning of description and definition? If the observation and description of conscious facts are actually attained, what matters it that the possibility of definition has been denied? A rose by any other name smells just as sweet.

Let us then observe the actual procedure of the introspective psychologist and note how he circumvents our *a priori* difficulties. In practice there seems to be little trouble. The psychologist's justification for the attempt to observe and describe is based, so it seems, on the observed distinction between focal and marginal experience. To analyze and describe the facts of consciousness is to bring the marginal constituents of experience into the white light of attention. Analysis and description are possible just

because experience is so largely a welter of elements that disguise their identity and character. In some way these unrecognized and unidentified elements are constituents of the total experience. To borrow the language of a writer quoted by James: "However deeply we may suppose the attention to be engaged by any thought, any considerable alteration of the surrounding phenomena would still be perceived; the most abstruse demonstration in this room would not prevent a listener, however absorbed, from noticing the sudden extinction of the lights."[1] Or, as James remarks: "It is just like the overtones in music. Different instruments give the 'same note,' namely, various upper harmonics of it which differ from one instrument to another. They are not separately heard by the ear; they blend with the fundamental note and suffuse it, and alter it."[2] Let the attention be directed to these overtones, however, and they at once detach themselves from their surroundings and step forth into the light of day. Even so the ticking of the clock may pass unnoticed in the sense that it is an undiscriminated element in the background of our consciousness; but if the ticking comes to a sudden stop, the feeling of a void in our consciousness proclaims the fact that something has gone out from it.

The observation and description of the facts of consciousness, then, is based directly on the fact that experience, as the psychologist deals with it, possesses a focus and margin. Nature as conceived by the physical sciences presents no such distinction. The facts are what they are, and their character as focal or marginal, as clear or obscure, depends altogether upon their relation to an intelligence. Or we may say that if the facts of experience were always focal and never marginal, it would never occur to us to speak of consciousness as we do at present. As long as we confine ourselves to a given color, shape or temperature, as experienced focally, we are not dealing with consciousness but with objects. An analysis of such facts that does not bring in the marginal is not an analysis of consciousness but an analysis of physical reality. Even if we consider non-physical objects, such as mathematical or economic concepts, we find that our

[1] *Principles of Psychology*, I, p. 241, note.

[2] *Ibid.*, p. 258.

analysis is not psychological as long as the marginal is left out. The consideration of the margin, however, brings us into the presence of facts which are of a distinctive kind and which warrant a new science. Let the margin be eliminated and psychology disappears at the same time.

The psychological doctrine of focus and margin, then, to which I invite your special consideration, is a matter of fundamental importance. On the interpretation of this doctrine depend our systems of psychology and of philosophy. What, then, is meant by focus and margin? If we turn to our psychologies, we seem to be confronted once more with something that everybody knows and nobody can define. But since we have to do with a distinction, the obligation to differentiate can not be wholly ignored. Consciousness is sometimes likened to a visual field and sometimes to the waves of the sea. Like the visual field it has a foregound and a background, a near and a remote, a center and a margin or periphery. The contents of consciousness are vivid or clear in the center of this field and fade away into vagueness or obscureness in proportion to their approach to the periphery. Or, to take the other comparison, the focus may be represented by the crest of a wave and the margin by what we may call its base. This illustration has the advantage that it indicates the difference between higher and lower degrees of concentration. As concentration increases, the crest of the wave rises higher and its width decreases, while the reverse is true where the concentration of attention is less intense. All consciousness possesses the distinction of focus and margin in some degree; however much we may be absorbed in an object or topic, there is always an indirect mental vision that informs us of other facts, which for the time being are in the background of our consciousness.

For purposes of description a metaphor is at best a clumsy device. It has a tendency to substitute itself for the thing to be described and thus to conceal its limitations and inaccuracies. The present case is no exception. I am forced to think that the visual field in particular is a thoroughly vicious metaphor when employed to body forth the distinction of focus and margin.

Whatever this distinction may in the end turn out to be, it is not such as this comparison would lead one to suppose. Objects seen in indirect vision appear obscure and blurred precisely because they are in the focus of consciousness. We get pretty much the same sort of obscureness or blur on a printed page when we look at it in indirect vision as we do when we look at it from a distance that is just too great to make out the words or characters. What the illustration shows is that things look different according as the circumstances under which we see them are different, but what bearing this has on marginal consciousness is not at all obvious to an unsophisticated intelligence.

When we speak of a focus and margin in consciousness, we are presumably dealing with conscious fact. Now this illustration of the visual field does not represent conscious fact. Ordinary perception carries with it no sense of obscureness at all, and when it does we have exactly the same kind of situation as when an object is too distant or in some other way inaccessible to satisfactory perception. That is, the object perceived is in the 'focus' and not in the margin. The obscureness of objects when seen with the margin of the retina has no more to do with the margin of consciousness than the obscureness caused by an attack of dizziness or by a morning fog.

It will be said, perhaps, that consciousness may be unclear even though there be no sense of unclearness, that there is such a thing as intrinsic clearness, quite apart from obstacles and problems. In other words, the same sensation is capable of realizing various degrees of clearness. It is not at all obvious, however, why the different experiences that are concerned in such a comparison should be called the same sensation. As long as we abstract from objective reference, each sensation is just what it is and there is no opportunity to make comparisons on the basis of clearness. A sensation as such—if we are bound to speak of sensations—can by no possibility be an obscure sensation, for the trait that we call obscureness or vagueness constitutes the intrinsic being of that sensation. If we permit ourselves to speak of clearness at all, we should rather say that it possesses a maximum of clearness, since it has managed to

express or present its whole nature with not one trait or feature lacking. What more could be demanded, in the way of clearness, of any conscious fact than that it should body forth every detail that it possesses?

If sensations or states of consciousness possess degrees of clearness, it seems to follow that we may scrutinize them for the purpose of discovering characteristics that were present though scarcely perceived, in much the same way that the polishing of old furniture brings out the grain in the wood. But such a parallel, I submit, is plain nonsense. The supposition that consciousness is something that in due time and with good fortune may attain consciousness is too absurd for discussion, even though it is a supposition that plays a considerable rôle in present-day psychology.

The purpose of the discussion, up to this point, has not been to deny the validity of the distinction between focus and margin, but to insist upon the necessity of reconsidering the meaning of this distinction, if we are to attain to a workable definition of consciousness and a fruitful or even intelligible conception of the problem of psychology. I have endeavored to show, in the first place, that the doctrine of focus and margin involves the *raison d'être* of psychology. Apart from this doctrine we have no task or problem that psychology can claim as its distinctive possession. The analysis of what is in the focus of consciousness is adequately provided for in the other sciences; it is only with the introduction of what is called the margin that an enterprise of a different kind becomes necessary. But, secondly, this distinction of focus and margin cannot be drawn on the basis of the experienced contrast between clearness and obscureness. The very fact that anything is experienced as obscure means that it is an object of attention, or, in other words, that it is in the focus of consciousness and not in the margin. The comparison of focus and margin with direct and indirect vision is misleading, because it suggests that experiences are marginal in proportion as they are felt as obscure. And, thirdly, if we undertake to distinguish between focus and margin on the basis of a difference in clearness or vividness of which no note is taken at the time, we encounter

the difficulty that experience or consciousness, taken abstractly, does not admit of such variations in degree, and so this criterion likewise goes by the board.

The situation is indeed peculiar. That there is a realm of psychological fact is universally conceded. As a consequence of this conviction a great body of fact and of doctrine has been built up. It would be folly to deny either the distinctiveness or the significance of this achievement. And yet James's description of psychology as "a string of raw facts; a little gossip and wrangle about opinions; a little classification and generalization on the mere descriptive level; a strong prejudice that we *have* states of mind and that our brain conditions them," is not wholly untrue even today. It is even possible for a present-day critic to outdo James and maintain that the legitimacy of psychology as a separate inquiry is a matter of faith rather than of sight. The 'raw facts' of which James speaks resolve themselves into physical and physiological material on the one hand and metaphysical dogmas on the other; the gossip and wrangle are largely over fictitious problems; the classifications and generalizations as a rule involve trespassing on other fields; the prejudice that we have states of mind has less standing-ground today than it had twenty years ago. In other words, there is still plausible ground for James's pessimistic comment: "This is no science, it is only the hope of a science." A situation such as this carries with it the insistent suggestion that the trouble lies, not primarily in the nature of the subject-matter, but in our conception of the problem. "The matter of a science," as James says, "is with us." And if the distinction of focus and margin constitutes the starting-point and justification for a science of psychology, a better understanding of this distinction will mean a more adequate appreciation of the problem with which psychology has to deal.

As a starting-point for a reconsideration of focus and margin, we may take those experiences in which the distinction of clearness and obscureness is presented as an experienced fact. Let us then look once more at the familiar illustration of the visual field. "When we look at a printed page, there is always some one portion of it, perhaps a word, which we see more clearly than we do the

rest; and out beyond the margin of the page we are still conscious of objects which we see only in a very imperfect way."[1] That is, we appreciate the distinction between what lies in the center of our visual field and what is more remote, just because in this experiment we are trying to see what lies beyond the center without turning our eyes in that direction. We set ourselves the task of seeing what is on the page, and at the same time we interpose an artificial obstacle. Hence the sense of effort, and the contrast between what is clear and what is obscure. This contrast is created by our attempt to overcome the difficulty, and is therefore absent from ordinary, unobstructed visual perception.

The situation described in the following familiar quotation from James is an illustration of the same thing. "Suppose we try to recall a forgotten name. The state of our consciousness is peculiar. There is a gap therein; but no mere gap. It is a gap that is intensely active. A sort of wraith of the name is in it, beckoning us in a given direction, making us at moments tingle with the sense of our closeness, and then letting us sink back without the longed-for term."[2] 'I met this man on the train, and later at the reception; but what is his name?' The struggle rends our consciousness in twain. The occasions of our meeting, his appearance, his conversation, are solid fact, yet all suffused by the pervasive, evanescent 'wraith' that tantalizes us with glimpses which half reveal and half conceal the name we seek to grasp.

It is in experiences of this sort that the doctrine of focus and margin has its root. They likewise furnish a point of departure for the explanation of experience that we find in James and Bergson. These experiences, so they contend, take on their peculiar coloring from their relationship to a beyond, to something which is yet to be. If we are to understand experience as it really is, we must guard against the besetting temptation to translate everything into spatial equivalents. This forward reference is usually read off as a distinction and contrast between simultaneously existing components. Some constituent is first set apart as the nucleus or focus and is then enveloped with an

[1] Angell, *Psychology*, p. 65.

[2] *Psychology*, I., p. 251.

elusive, intangible wraith of meaning, which is called the margin. We have been taught to think of the focus as occupied by sensory material of some sort and silhouetted against a background lit up by the fitful, inconsequential heat-lightning of meaning. But this is a perversion of the facts. When we are engaged in a problem it is precisely these unformed meanings that are of interest and importance. They are in the focus of consciousness, in so far as we can speak of a focus at all. They absorb our attention and direct our energies. They inform us of a margin, not by refusing to compete for our attention with more important or more interesting facts, but by bodying forth the *unfinished* character of the situation. Hence this beckoning, this tingling with the sense of closeness, this sinking back when our efforts meet with defeat. Focus and margin, in short, have to do with movement, with transition, and not with a static field. These situations are felt as inherently unstable and in process of reconstruction. There is a peculiar sense of activity, of 'something doing,' of a future knocking on the door of the present. What is thus on its way to the present we can designate only in terms of the object as it is after it has arrived. To call it marginal is to immerse the object in this temporal flux, which embodies perfectly the characteristics of Bergsonian duration.

But this is only a first step. If we turn now to those experiences from which this inner diremption of fact and meaning is absent, we find processes that are essentially the same in kind. They likewise constitute a temporal flow, even though there be no sense of duration or of change as such. The different moments of these experiences are not mechanically juxtaposed, but blend together in much the same way as when the process is experienced as a process. In principle we have the same transition, the same becoming, the same growth from less to more, the same activity of continuous reconstruction. Conscious life, we find, is a continuous adjustment; each of its moments is a 'transitive state.' The more evenly flowing experiences are likewise endowed with a focus and margin, not in the form of static elements, but as a dynamic relationship of what is with what is to be.

Such an interpretation of experience, moreover, opens the

way for a proper evaluation of the psychologist's procedure. The concept of sensation is methodology pure and simple. Granted that focus and margin are such as was indicated a moment ago, how are they to be described, unless we resort to some *Hilfsbegriff*, such as sensations? James's description of the effort to recall a forgotten name is not description at all in a scientific sense, since the 'wraith of the name' that we are trying to recover is of too unearthly a fabric to be weighed and measured by accepted scientific standards. It makes us 'tingle,' it lets us 'sink back,' but such portrayal is literature rather than science. Our first step must be to resolve our material into components. These components we identify with genuine elements if we can, with pious fictions if we must; but until this is done there can be no exact description. There can be no precision in our statement of the facts and no formulation of the laws that govern their changes.

This view undeniably has a certain plausibility. As long as the results are attained which the psychologist sets out to reach, we need not be hypersensitive on the score of methods. In the field of natural science, at all events, this Jesuitical principle is not incompatible with respectability. It is true, indeed, that if sensation is but a tool or artifact, we are obliged to indicate the end that is to be attained by this device. What do we gain by translating experience into non-existent sensations? What are these laws which they are to help us formulate, unless they be physiological laws, which can be stated very well without their aid? But waiving these questions for the present, we may consider whether this interpretation of experience has any better warrant than the one that it seeks to displace. The concept of sensation, it may be noted, was originated, not in the interests of methodology, but as the expression of a historic preconception which mistook fiction for fact. The fundamental error back of it was the preposterous notion that consciousness consists of subconscious or unconscious constituents, which by their mechanical or chemical combinations make our experience what it is. The question which it raises and which has afflicted us even to the present day is not primarily the question of fact, but the question

of intelligibility, as the controversy over mindstuff abundantly attests. Whether we regard consciousness as made up of sensory material or as constituted in some other way is a matter of detail; the primary question is whether a distinction between consciousness as it appears and as it 'really' is has any meaning. In so far as this distinction is maintained, we are beating the thin air of mythology, despite our reinterpretations and justifications. True conversion does not consist in a renaming of old gods, but demands a humble and a contrite heart. To call sensation an artifact, a methodological device, without a surrender of the metaphysical assumption that lies back of Associationism is not to correct the evil, but is more likely to be treated as an indulgence for sins that are yet to be committed.

These comments are but a preamble to the charge that this doctrine of Bergson and James is in the end a perpetuation of what is worst in the standpoint of Associationism. It affords another illustration of the meeting of extremes. Both points of view undertake to tell us what is going on behind the scenes, what consciousness or experience 'really' is. The descriptions present an astonishing difference of vocabulary; but if we take care not to be misled by superficial differences, we find an equally astonishing agreement as to content. From the one side consciousness is explained as a juxtaposition of elements; from the other as an interpenetration of elements so complete that the parts can be neither distinguished nor isolated from the whole. On the one hand we find a multiplicity without unity, on the other a unity without multiplicity. In the one account the temporal unit is a sensation devoid of internal temporal diversity; in the other duration as such is a unity in which past, present and future blend into an undistinguishable whole. The one position gathers its facts by a mystifying process called introspection; the other obtains its results from a mystical faculty of intuition. The difference in language remains, but both accounts lead us away into a twilight region where words substitute themselves for facts.

Time does not permit an attempt to verify these assertions in detail. My chief concern at the present moment is the contention

that a contrast between ordinary experience on the one hand, and something else of which it is the appearance on the other, is inadmissible. It is metaphysics, in the bad sense of the word, whether it shows itself in the domain of science or in the domain of philosophy. To describe experience by reference to such a real is to explain what we know in terms of what we do not know. The question as to what is real is absolutely sterile. Our descriptions and explanations must remain on the same plane as the experiences with which they deal and not seek after a real of a different order. To state this in terms of our specific problem, the distinction between focus and margin must not be brought back to hypothetical sensations that are almost but not quite experienced, nor to a duration in which all distinctions are swallowed up, but must be rendered in terms of other facts that dwell in the light of common day.

What are these further facts? If we eschew the metaphysics of Associationism and Bergsonism, we must take our cue, it would seem, from the behavior in which focus and margin play a part. Looking again to those experiences of stress and strain in which the doctrine of focus and margin originated, we find that they are correlated with a type of behavior that is unique. An attitude of expectancy, for example, is as much a physical as a mental attitude. The mental projection into the future is accompanied by a bodily 'set' or preparedness for coming events, even though the nature of these events be a matter of some uncertainty. The nervous system is in readiness to respond this way or that; or rather it has already started to act in various ways. This attitude of attention or preperception may be described provisionally on the side of the body as a set of loosely established temporary reflexes. Certain nervous connections are organized for the occasion, so that when a given stimulus arrives it will induce its appropriate response. This situation is best exemplified, perhaps, in simple reaction-experiments in which the subject makes one of two alternative responses, according to the nature of the stimulus.

This account, it should be noted, starts with a set of miscellaneous responses that are already going on. If the subject is

to respond with the right hand to one stimulus and with the left hand to another, both hands are in readiness before the stimulus appears. The hands are not merely ready to act, they are already acting. Through the agency of the cerebral cortex these partial responses have been so organized as to issue forth in a unified, orderly and progressive response. Thus the immediate act of looking has embodied in it the activity of the response that is to follow later. The looking is not simply with the eye, but with the hands that are to make the movement. It is not just visual response, but a visual response which, in the language of Bergson, prefigures or sketches out the act of a later moment. The excitation induced by the stimulation of the optic nerve is modified by the excitation that comes in from the hands. Before anything can happen, these various excitations must come to terms with one another, so to speak; that is, a stimulus must be organized which will take account of them all. It is precisely because the excitations are present from the start that they demand a stimulus of a different order and that we can speak of the organization as a kind of temporary reflex.

In one important respect, however, these temporary organizations are very different from ordinary reflexes. The various successive acts that make up our temporary reflex achieve their relationship to one other from the fact that they are started simultaneously. Apparently this is not the case with true reflexes. The act of swallowing that starts the complicated process of digestion is merely the first act of a series. There is no evidence that the movements of the stomach and of the digestive fluids must be presupposed before we can permit the act of swallowing to take place. The swallowing may start the other processes, but we can not turn this about and say that these other processes make the first act one of swallowing rather than something else. While the excitation that sets off the first act may be somewhat modified as the result of previous acts, it does not seem necessary to assume that there must be a representation within the first stimulus of the acts that are to follow at later moments.

We have now reached the point where the cat is about to

emerge from the bag. In a reflex act, so it was stated, the stimulus that evokes the first response is like the spark that sets off a fuse. Each stage in the process becomes a stimulus to the next. In our 'temporary reflexes,' on the other hand, a certain organization must take place before the act can proceed. The first response is delayed until the last is provided for. Or we may say that until the organization is effected, it remains to be seen what the first act is to be. In response to an optical stimulation, for example, the eyes may be focused for the act of looking or they may be closed as a protection against danger. There is, to begin with, no adequate stimulus at all. The process of organization is as much a process of securing a stimulus as it is a process of securing response. What is needed is a stimulus that will give direction to all the partial responses and not merely to the first of a series. And yet the responses that enter into the total act come in a serial order. To be adequate, therefore, the stimulus must take account of both the earlier and the later stages of the response by evoking the first stage *as* a preliminary to the second. The stimulus is evidence that a response has been attained, but attained with reference to the response of the next moment. Such a stimulus is evidently unique in kind. It is called into being to suit the needs of the moment, and it controls the progress of the response by reflecting or prefiguring in its present constitution the responses that are yet to follow. And this is precisely what is meant by consciousness or a conscious stimulus.[1]

The same point may be stated by saying that conscious behavior involves an organization in which the body and its stimulus are correlative factors or components. We have grown so accustomed to the notion of a static environment, so far as consciousness is concerned, that the idea of a process which involves objects as well as the adaptive organism seems strained and fanciful. And yet the relativity of sense-perception is one of

[1] Cf. Dewey, "The Reflex Arc Concept in Psychology" *Psychological Review*; 1896, and, "Perception and Organic Action," *Journal of Phil., Psych., & Scientific Methods*, Nov. 21, 1912; also, C. Judson Herrick, "Some Reflections on the Origin and Significance of the Cerebral Cortex," *Journal of Animal Behavior*, Vol. III, pp. 222–236.

the platitudes of philosophy. The objects that we see and hear and touch are but an epitome of our past training and present disposition. That man is the measure of things is nowhere more easily verified than in the world of our sense-experience. The attempts to protect things against the profanation of change through contact with our experiencing of them, even at the cost of reducing consciousness to a pitiful epiphenomenon, constitutes a long history of weary futility. The new movements in philosophy are, first of all, a protest against the jugglery by which objects are made to disappear and appearances to substitute themselves for reality. The object before us, so we are assured with patient repetition, is its own self and not a pretender seeking to impose upon our naïve faith in the deliverances of the senses. In other words, let us accept whole-heartedly this inevitable relativity, in the hope that the threat will be transformed into a deliverance. In our reaction-experiment, for example, the situation before us is as truly objective in its uncertainty and emotional tone as in its spatial relations and colors, in the sense that all belong equally to the object. This relativity, however, is shorn of its terror, since the change that things undergo in becoming experienced is simply the exercise of a function in the control of behavior. Things undergo a change in becoming objects for consciousness, but the change is by virtue of the fact that they assume a certain task or duty. The experiential object varies with the response; the situation and the bodily activity fit together like the sections of a broken bowl.

The situations of expectancy and uncertainty exemplified in the reaction-experiments are of special interest because in them the distinctive character of conscious life is writ large. To say that they are conscious situations is to say that they are so constituted that the possibilities of a subsequent moment are embodied in them as a positive quality. In them the present moment is affected by a future that is contingent. And similarly the response has neither the predetermined organization of the reflex nor the aimless character of a response that issues in a set of random movements. It is, so to speak, of a generalized character, like the paleontological specimens that foreshadow in

their structure the advent of both fish and reptile. This form of organization pertains to all conscious behavior. In uttering a sentence, for example, we know in advance what we are going to say, yet the sentence shapes itself into definite form only as we proceed. The same word in different contexts is a different word in each instance, by virtue of the coloring which it takes on from what is to follow after. And this is equally true of our most casual experiences. The auditory or visual object that we happen to notice and immediately afterwards ignore is apprehended with reference to the possibility of warranting further attention or else it presents itself as an intruder that is to be excluded, in order that we may go on with the concern of the moment. All experience is a kind of intelligence, a control of present behavior with reference to future behavior. To be in experience at all is to have the future operate in the present.

Stimulus and response, then, are complementary to each other. This is true not only at the starting-point but at every stage of the activity. As the act progresses, the stimulus progresses with it. The book on the table must become successively book-to-be-reached-for, book-to-be-picked-up, and book-to-be-opened, unless the process is to drop back to the type of reflex. This development of the stimulus gives genuine continuity, since every moment in the process comes as a fulfilment of its predecessor. We find here a relation of stimulus and response that is unique. Everywhere else this relation constitutes a serial order. Response follows stimulus like the successive strokes of a clock. A purely mechanical act is a touch-and-go affair; the stimulus presses the button and then subsides, while the nervous organization does the rest. In conscious behavior, on the other hand, stimulus and response keep step with each other. A mere succession of stimuli would reduce conscious behavior to a series of explosive jerks, on the principle of the gasoline engine. To be conscious at all is to duplicate, in principle, the agility of the tight-rope performer, who continuously establishes new co-ordinations according to the exigencies of the moment and with constant reference to the controlling consideration of keeping right side up. This type of behavior is made possible by the peculiar nature of

the stimulus, and it justifies the claim that psychology is a science of behavior.

To characterize psychology as a science of behavior, however, is to invite misunderstanding, unless we add a word of explanation. The term 'behavior' has acquired a certain connotation that detracts from its usefulness. Its chief defect is that it emphasizes the activity of the organism to the neglect of the stimulus by which the activity is controlled. It suggests that the behavior in question is to be studied from the outside, so to speak, and not as a correlation of stimulus and response, which is the distinguishing feature of conscious behavior. Present-day 'behaviorism' magnifies response to the neglect of the stimulus, just as 'introspectionism' emphasizes the stimulus to the neglect of the correlated response. From our present standpoint, however, the stimulus is evidently quite as important as the response. Since the subject-matter of psychology is behavior that is directed by a certain type of control, it is the control that is properly entitled to emphasis. In other words, the changes in the stimulus by virtue of which a certain adaptation is attained constitute the proper point of departure for psychology. As typical examples we may cite the processes by which perceptions are built up, lessons are memorized, and decisions are reached. Processes of this kind present certain characteristic changes in the stimulus which may be observed and correlated with the bodily activities to which they give direction and guidance. Our task, it may be noted, is not to analyze a subject-matter whose *esse* is *percipi*, but to ascertain how the function of control is performed. We are under no obligation to read into our experiences so as to make them something other than they were. Our reference is not to hypothetical sensations, but to the facts of behavior. In making such a study the object may give us a clue to the character of the response, or conversely the response may give us a clue to the nature of the object. Visual imagery, for instance, indicates that the nervous machinery for vision is concerned in the process; and, on the other hand, the nervous fumbling of a watch-chain may reveal to us the disturbing character of the situation in which

we happen to be placed. But in any case our concern is with a process as process, with objects as related to conduct, and this is the justification for the contention that psychology is a science of behavior.

We may now attempt to translate this progressive stimulus into terms of focus and margin. Conscious behavior, so it was said, is a process in which diverse and incompatible acts are made to harmonize and contribute to an end that contains them all. The stimulus bodies forth both the response that is and the response that is to be, or the response of the moment as modified by what is to follow after. This is the reason why it is impossible to say at any given moment what is 'in' consciousness and what is not. In a sense we perceive a number of things to which we are not paying attention, such as the light in the room or the familiar chairs and bookcases. These are perceived in the sense that our total adjustment has reference to these facts. They are perceived marginally, as we say, which means that the presence of these objects, by affecting the adjustment of the moment, has a bearing on the character of the perceived object or situation; and similarly there are marginal 'images,' perhaps, of an anticipated object, in the sense that the present stimulus is affected by the responses that are still on the way. Again, we may speak of sensations of strain or movement, as a recognition of the fact that certain bodily activities are factors in the process. When the stimulus is thus interpreted with reference to the bodily processes which it controls, it resolves itself into sensations of various kinds, and as thus resolved or transformed the stimulus becomes identical with the margin or fringe. Such an interpretation of the stimulus is evidently based upon its function of controlling behavior, and since we have previously identified this function with consciousness, we may conclude that the margin is synonymous with consciousness.

By way of amplifying this point, let us return for a moment to the illustrations previously employed. The ticking of the clock that is present though unnoticed, the overtones of the note that suffuse the whole without diverting attention to their individual qualities,—in what precise way are facts of this kind

concerned in the description of the experience which they modify? A study of the clock or of the overtones can hardly pass as an analysis of consciousness; it is too obviously a specification of the conditions upon which these respective experiences depend. Such a study becomes merely an excuse for repeating the analyses of physics and reading them off in terms of sensations and images. Moreover, the transfer of all this material to consciousness looks suspiciously like a transaction in mental chemistry. Where, then, is psychology to gain a foothold? What is the meaning of these uncanny sensations and images, which nobody experiences, unless it be their character as symbols of bodily adjustment? They have no legitimate status, and psychology, by consequence, has no legitimate problem, except in so far as they symbolize those acts of adaptation which are the sole and proper concern of psychology.

There is, however, another point of view from which the stimulus may be interpreted. It was pointed out that each stage of a conscious act provides for its successor, both on the side of response and on the side of stimulus. The stimulus represents a sort of moving equilibrium. It is always off its balance, always in a process of continuous reconstruction; and it is out of this stress and strain that the new stimulus is born. It is this quality of the stimulus that we indicate by such terms as focus or attention. The stimulus as focus is a name for the stimulus as in a state of transformation, as becoming a different stimulus. The reference here is not directly to the function of controlling response, but to the succession of the stimuli. It seems evident, furthermore, that the stimulus thus construed becomes identical with object. Anything is in the focus of consciousness, or is object for consciousness, which through such a process of reconstruction determines the course of experience in the sense of determining the stimuli that are to follow.

By way of conclusion I venture to urge that a proper consideration of the facts of behavior will furnish us with a key that will unlock many a door. The conception of objects as both stimuli to response and as transition-points to further stimuli gives us a differentia for experience and also enables us to distinguish within

experience between consciousness and object. [If, however, we disregard behavior, we are bound to lose our way. The distinction between the experienced and the unexperienced is either wiped out or else is permitted to convert itself into a distinction between appearance and reality that leads nowhere and explains nothing. The significance of truth as the successful guidance of behavior, in accordance with the program laid down in the organization of stimulus and response, is lost to sight, and recourse is had to a fourth-dimensional truth or reality for the miracle of breathing life into the dead bones of our philosophic abstractions. The study of behavior constitutes a mode of approach that holds out the hope of deliverance from questions that should never have been asked. We are on a different and, let us hope, a higher level when we cease to ask how consciousness can lay hold of passive objects, or how knowledge *überhaupt* is possible, and concern ourselves rather with the wondrous activity whereby this plastic dance of circumstance which we call the universe transcends the domain of mechanism and embodies itself in the values of conscious life.

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PRAGMATISM AND SCIENCE.[1] (I.)

PROFESSOR JAMES has called pragmatism "a new name for some old ways of thinking." But pragmatists as a rule have been interested more in the new name than in the old ways. This must explain why they have generally failed to see that the first and greatest of their school was Immanuel Kant. For it was Kant who, more than any other, established the great Copernican revolution—the humanistic revolution, as I should call it—in which the center of reference in the interpretation of scientific knowledge was shifted from the world that is known to the mind that knows it. Since Kant it has been scarcely possible to conceive of a science which should fail to reflect the character of the scientific mind. Yet it seems curious that Kant should have associated the name of Copernicus with a movement that transferred the center of reference from the world to man; for Copernicus, you will remember, removed the center of our planetary system from the earth to the sun and thus gave to our world a more foreign aspect than it had worn before.[2] In point of fact Kant does something of the same kind. His world of nature is not a humanistic world in any very personal sense. Kant lived in an age whose ideal of science was still patterned exclusively after the astronomical achievements of Newton, and for which, accordingly, the type of science *par excellence* was mathematical physics. For Kant himself the two most sublime objects of thought were "the moral law within" and "the starry firmament without." And for Kant the beauty and sublimity of the celestial system lay in its eternal and unchanging regularity. To the thought of the eighteenth century this seemed to realize the perfect consistency of the divine reason. Now I suppose that there is no part of our world which is more discouraging to a humanistic interpretation, and certainly there is none less amenable to human will and desire, than this "starry firmament

[1] The first of two lectures given before the Philosophical Union at the University of California on December 5, and 12, 1913.

[2] This was written before I had seen Norman K. Smith's interesting explanation of the 'Copernican' revolution in *Mind*, Oct., 1913.

without." No department of nature offers a more striking contrast to the unpredictable variability of most of our human thinking. And yet, in Kant's view, this inflexible regularity of the heavenly bodies was the reflection of our human reason. How did Kant unite these seemingly incongruous elements? The answer is simple; he united by separating. To Kant we owe the rigid separation, still more or less current in psychology, of knowledge, feeling, and will. In Kant's psychology all of the processes of scientific knowledge, or reason, take place in a compartment of the mind which is assumed to be inaccessible to the contaminations of personal desire. By this device he preserves the inflexible necessity of scientific law while making science the reflection of the human mind.

This means that Kant's humanism was far from complete. Kant's philosophy was a humanism modified to satisfy the authority of the Newtonian physics; and it did not occur to him, as it seems not yet to occur to his pragmatic successors, that the claim of science to deal with an independent reality might be satisfied by a theory of knowledge in which knowledge is determined by desire. I might point out, indeed, that Kant's humanism is not so imperfect as it seems, even in the *Critique of Pure Reason*—for the *Practical Reason* is clearly a humanistic document. But I prefer to let the statement rest where it stands in order to bring out more clearly the meaning of that later humanism which is called pragmatism.

For the difference between Kantian criticism and modern pragmatism centers precisely upon the question of the relation between reason and desire: are they dependent or independent? Kant's humanism is made awkward by the fact that in his psychology reason is independent of desire. For pragmatism reason and desire are at least mutually dependent—if, indeed, we are not to say that pragmatists adopt the opposite extreme and make reason *dependent upon* desire. This central issue is nowhere more boldly stated than in the chapter on "Reasoning" in William James's *Psychology*. To grasp James's point I will ask you to put before you the image of an old-fashioned reasoner—the reasoner as Kant would have described him. You will find his

type in the figure of Justice blind-folded. For the first duty of the old-fashioned reasoner was to be strictly 'impartial'—to decide the case upon the basis of the evidence furnished him, and upon that alone: to all else he was supposed to be 'blind.' And he cared not what result was reached, provided only that it was reached in accordance with the laws of logic. In a word, his ideal was to be as impassive, and at the same time as coldly accurate, as an adding machine. A mere suspicion of bias, or even of personal interest, would vitiate his conclusions. Now, in contrast to all this, James maintains that reasoning is guided from first to last by a subjective and personal interest. Reasoning begins with an hypothesis to be tested; in other words, not with evidence, as the older view asserted, but with conclusions. For the matter of that, until you have first set up a theory, an hypothesis, a conclusion to be tested, there will be no evidence forthcoming. To the impartial seeker after facts the world is mere vacuity. No man of science is ever thus impartial; scientific facts are discovered because of their bearing upon interesting problems. Accordingly, in James's view, reasoning begins with a desire or purpose, with something that you wish to prove or establish; and the facts are gathered with a view to this purpose. The same purpose then determines the analysis of the facts, their definition and classification. At every step the qualities and relations among your data which you count as real are those which have a bearing upon your purpose. And, in the end, the only properly 'logical' conclusion—the only conclusion that gives truth—is that which satisfies your purpose and yields the desired result.

This gives us the essence of pragmatism. In the ordering of philosophical theories pragmatism is the enemy both of realism and of absolutism. In the vocabulary of pragmatism all vice is "absolutism." Now, realism and absolutism both teach that reality is independent of our human grasp of it; that nothing is made true by being known, much less by being desired. According to Kant, a proposition is made true by being known, if known in accordance with the rules of human reason; but, according to him, reason, though a part of human nature, is inde-

pendent of desire. For the pragmatists reason and desire are one; and perhaps we should say that desire is the one. Hence, a rational, or true, statement is the statement which satisfies our desire. A real object is an object in the existence of which we find it useful to believe. Truth is not already made, as the realists hold, but is always being made by us for purposes of our own. To be true, then, is to satisfy our purposes—that and nothing more.

For a convenient illustration of the logic of pragmatism we may take the Copernican theory of the heavens. This formulation, according to which the planets revolve about the sun, is viewed by men of science as a modern discovery; by this they mean that this relation of the planets and the sun was at least not created by Copernicus. For the pragmatists the Copernican theory would be, not a discovery, but an invention. By them a theory of the heavens would be regarded as one of the necessities, let us say, of navigation. The older Ptolemaic theory, according to which the sun revolved about the earth, had reached a stage of complexity which rendered it no longer available for purposes of calculation; and the Copernican theory was devised to take its place. A second example would be the assumption of a universal law of cause and effect. James tells us that the question of cause and effect is suggested by the attempt to discover who is responsible for a given result. But I fancy that most pragmatists would prefer to point to the practical necessity of assuming an order of cause and effect if we are to set out to accomplish any purpose whatever; if planting is not to be followed by harvest it will not be worth while to plant. Voltaire said that if God did not exist we should find it necessary to invent him. By a similar necessity, according to pragmatism, we have invented the law of cause and effect.

One of the most striking illustrations of the theory is an example which James quotes from Ostwald. "Chemists have long wrangled over the inner constitution of certain bodies called tautomerous. Their properties seemed equally consistent with the notion that an instable hydrogen atom oscillates inside of them, or that they are instable mixtures of two bodies." But

both views lead to the same *practical* result. Now, a realist would hold that this is a case *either* of the instable atom *or* of the instable mixture. One or the other must be true—we simply cannot say which—but both cannot be true, unless it can be shown that the two phrases have theoretically the same meaning. But, according to James both are equally true because, in practice, both lead to the same result. For pragmatism this is all that 'truth' can ever mean. The complex laws of science are, therefore, only so many human inventions. Each of them has a practical meaning, and the practical meaning is the sole meaning.

Thus far the meaning of pragmatism seems definite and clear. But now we are to see that what appears to be clear upon the surface may turn out to be vague underneath. Suppose, then, that we put the question, What are the human needs? Are they needs only for bread and butter or have we also intellectual and spiritual needs? Or shall we say that intellectual and spiritual needs are only disguised needs for bread and butter? On the other hand, may we not ask whether, as conscious beings, we have any need for bread and butter except as we need to eat it self-consciously? In a word, can science be satisfied with a world which as a brute fact does yield bread and butter? I need hardly remind you that these are questions of first importance; for, if we become pragmatists, they are the questions which will determine for us what kind of a world we shall take to be true; and in the meantime they must determine for us what pragmatism really means. They may convince even the pragmatist that his world is very different from what he now takes it to be. For suppose it should turn out that even the bread and butter needs are of the same type as the need of sexual gratification; that, for example, while appearing to be merely needs for physical satisfaction, they are at the same time needs for physical satisfaction in a relation of spiritual fellowship. A world which satisfied this need would be very near the world of objective idealism.

Now I think I am not wrong in saying that our American pragmatism is disposed to emphasize the need of bread and butter and to hold that spiritual needs are only bread and butter needs

disguised. At least I feel compelled to say this of the pragmatism of my friends, Professor Dewey and Professor Moore, although I am convinced that they would call the interpretation vulgar. When I endeavor to state for myself their conception of the categories of science, I seem to find but one phrase suitable. Why do we need to look upon nature as a regular succession of cause and effect? Their answer seems to be: because we need it in our business; or, better perhaps, because we need it in our factory. For the term by which they prefer to name their special brand of pragmatism is *instrumentalism*. Instrumentalism teaches that the categories of science, such as the law of cause and effect, are but so many tools or instruments—though, indeed, highly complex instruments—for gratifying our needs. And what needs? So far as I can see, the only needs to be satisfied by such instruments are the needs of bread and butter. As I have already pointed out, there must be a direct relation between the kind of world that a pragmatist takes to be true and the kind of need that he wishes to satisfy. Now, to look upon nature as a mechanism, or an instrument, after the fashion of the physicists and the chemists, does indeed satisfy the need for bread and butter. So far, it matters not whether the bread comes from a machine or from the hands of a human baker. In the words of James, both views would be equally true. And if the need is above all for a strictly calculable source of supply, then doubtless the machine view is truer. But I cannot conceive any one to be satisfied with this mechanical view of nature who feels that his need of living with her, or even upon her, is also a need for understanding and fellowship.

The question before us is therefore the question of the logic of our needs. Pragmatism, instrumentalism, humanism—in all of these views the basis of logic is human nature, and in all of them truth (whatever else it may turn out to be) is an expression of human need. Now it would be false to deny that we find it useful to treat nature as a system of mechanical causation or that this treatment is dictated by a need for bread and butter. But is this the whole story—the whole story of our needs? Of this very need a different version is suggested by Bergson, who

has also been called a pragmatist; and to my mind his analysis is far more penetrating and illuminating. Bergson agrees with the instrumentalists in holding that the mechanical conception of nature is the outcome of our need for bread and butter, but according to him it is at the same time the expression of another need. The mechanical conception enables us to have practical dealings with nature. But why? Bergson's reply is: because, to a prevailing type of mind, the mind of the natural scientist, this conception renders nature more intelligible—or, as he would prefer to say, more amenable to intuition. In a word, while the mechanical view of nature does indeed supply us with bread and butter, it is at the same time a reflection of the fact that man himself is a machinist.

To see what this means let us suppose that we are seeking an explanation of animal life. I need hardly remind you that, in spite of the vitalism of Driesch, the main endeavor of biologists to-day is to explain the life-process in terms of mechanism; and this means that a process which on its face appears to express a unity of purpose when taken as a whole is analyzed into a series of temporally independent operations each of which introduces its successor by the blind force of mechanical necessity. Bergson points out, then, that this method of producing a result is precisely what you find in a factory. For example, a kid glove which we might well suppose to be formed by the manual skill of a few persons, passes through no less than fifty or sixty hands, each of which performs a single mechanical act. The fact is that we men are unable to produce a glove as nature produces an organism, in a single and continuously coordinated act. The form and purpose of the glove are in no wise logically implied in the act of slaughtering the animal for his skin; and, though the skin be stripped, or even tanned, it is not yet determinately the embryo of a glove. In our human industry, and especially in organized industry, it seems necessary to divide the operation into a number of successive and virtually independent stages. Accordingly, says Bergson, when we seek to understand nature we read our own necessities into her. Our immediate intuition of life tells us, indeed, that the growth of an organism must be

something very different from the manufacture of a glove; yet when we attempt to bring nature to terms of practical clearness, we seem almost compelled to impose upon her the routine of the factory.

Bergson uses this illustration as an argument against 'intellectualism' and in defense of what he calls 'intuition.' In his view, what is chiefly demonstrated is the fatal mendacity of intellectual analysis, or, for the matter of that, of all analysis. But I believe that we may ignore his condemnation of intellectualism even while accepting the doctrine of 'intuition.' For my own part, I should say that it is just the intellectual, if you please to call it so, that constitutes the superiority of human life to that of the animals. It is the intellectual that elevates the enjoyment of Beethoven or of Tschaikowsky above the enjoyment of a good dinner, and it is the intellectual that transforms erotic gratification into a relation of personal loyalty and gives to this side of our nature a moral value and nobility. When Bergson calls a man an intellectualist, he means, I fancy, that the man has the soul of a mechanical engineer; and he points to the mechanical theory of nature as a depressing illustration of the engineering philosophy of life. I should prefer to point to Bergson's analysis of the engineer's point of view as true type of intellectual analysis.

What, then, is the significance of this analysis? To see its point for ourselves let us return for a moment to the instrumentalist. Instrumentalism, you remember, is the school of pragmatism which holds that the categories of science, and in particular the mechanical category, are so many instruments, or tools, for the satisfaction of our practical needs. And the instrumentalist himself, as you may now see, is none other than Bergson's intellectualist—the man who looks at the world from the standpoint of the engineer. For the instrumentalist the world is an engine; this embodies his conception of what we need. If, however, we accept Bergson's analysis, we shall say—shall we not?—that, even granting this instrumental view of science, what the scientist really seeks here, in the mechanical theory of nature, is not so much an engine as an engineer. We look upon

nature as a mechanism, not because, in some opaque fashion, the view 'works,' or yields results—what is there, in the first instance, to suggest that such a conception would work?—but because, in more intelligible fashion, this conception of *the working of nature* enables us to come to terms with her, to make arrangements with her, to anticipate her in somewhat the same way in which we anticipate the intentions of our fellow-man. All of this means that, upon any deeper analysis of motives, instrumentalism must turn out to be a form of anthropomorphism. This does not mean that I condemn it; on the contrary, I propose to defend it. Meanwhile I have suggested that the kind of pragmatism a pragmatist stands for must depend upon his conception of our human needs; and further that, as conscious agents, our need is not merely to consume bread and butter but to consume it self-consciously. Shall we not say, then, that, in the scientific construction of our world, our deepest need is for a world that shall be from our human standpoint intelligible?

To suggest that a need of this kind is in fact embodied in the formulations of science I shall ask you to recall once more the contrast between the Ptolemaic and the Copernican theories of the heavens. According to positive science the Copernican conception was nothing more than a late discovery of an eternal fact; according to the pragmatist, the Copernican conception was an invention for satisfying practical needs. But I think that the pragmatist is in danger of weakening his point, and that he lays himself justly open to the charge of creating a subjective and fictitious world, by speaking constantly as if an invention were invented out of nothing—as if, in the present case, there were no order in which the Ptolemaic and the Copernican views are definitely related. Accordingly, I shall propose the question, If the earth goes around the sun, must not the sun also go around the earth? When the question is thus stated, you perceive at once that it all depends upon which of the two you choose to regard as stationary; and then you reflect that a stationary point anywhere in the universe is just the most arbitrary of all assumptions. Why, then, do we now choose the sun to remain stationary? The pragmatist tells us that this conception is more

convenient. But then we are obliged to ask him how a conception can be more convenient except as it renders the object more intelligible; and this is to ask what it is that renders the heliocentric system more intelligible.

Suppose we put the question to the positive scientist. We receive the same answer in somewhat different terms. The preference of the positive scientist for a system which has the sun for its center is based upon the claim that this conception is 'simpler'; and for him, very curiously, the simpler conception always represents the positive outer fact. "Very curiously," I venture to say; for your positive scientist prides himself upon nothing more than upon his entire freedom from anthropomorphic superstitions. Could there be more naïve anthropomorphism than the assumption that nature always works with the fewest possible general principles? Or, in more technical terms, that she is guided by the law of parsimony? It is quite clear that we should be so guided ourselves. But this only serves to remind us that 'simplicity' is a matter of personal point of view. It is a common remark that all things are equally simple to him who understands. Your gasoline engine is complex only so long as it is imperfectly mastered. The advanced mathematician finds it simpler to deal with special problems by means of highly generalized theorems; but his mode of approach is anything but simple to a child. Now, for the older, or Ptolemaic, astronomy it was simple enough to think of the sun as revolving about the earth; but when it came to the other planets it was found necessary, upon more exact observation, to introduce subsidiary movements, or forces, in the form of epicycles; and these epicycles became so many as to render it impossible to form a single clear picture of the planetary situation. Yet, for all this, are we to suppose that a geocentric formulation is once for all impossible? That no mind could be conceived for which this formulation should not, after all, be simpler? Once more we may put the question, If any member of the solar system moves with reference to the other members, must not all the other members move with reference to this? And then will not any member serve as a center? Why then, is the heliocentric conception simpler? For

no other reason, it seems, than that this view of the situation renders the working of the system more easily conceivable and intelligible from the human, or at least from our present human, point of view.

And renders it intelligible, we may go on to say, from the standpoint of our human motives for action. For if we now inquire more closely into the advantages of taking the sun as the center of our system, we shall find that they consist chiefly in the fact that upon this assumption we may resolve the motion of each of the planets into two rectilinear forces, the attraction between the planet and the sun and the tendency of the planet to "fly off at a tangent." But what advantage do we gain by translating a curvilinear motion into two motions in a straight line? I am inclined to think that when children are told that, if the sun's attraction should cease, the earth would move off into space in a straight line, they often wonder why it should not just as well continue to move in a curve. Why must a body moving of its own momentum follow a straight line? For an answer to their question they are referred to Newton's first law, which reads: "Every body continues in its state of rest or of uniform motion *in a straight line*, except in so far as it may be compelled by force to change that state." In other words, free motion is never circular, or elliptical, or what not, but always rectilinear. And this rectilinear character, we are told, is a logical and impersonal necessity of thought. Thus the advantage of the heliocentric system seems to be that it more easily enables us to conceive the movements of the planets in terms of logical necessity—as formulated in Newton's law.

Yet I think that only a little reflection is needed to see that this seemingly most impersonal of scientific laws is really far from impersonal. A body in motion will move until stopped, a body at rest will remain at rest until moved. Why? we venture to ask. My answer is, Because this is precisely how we ourselves should behave. Newton's law simply reads into the universe that aspect of motive which makes our own action intelligible. But why must free motion be rectilinear? Again, it seems to me that (following a suggestion of Poincaré), we should say: because

our own free motion is rectilinear—because, owing to the transverse symmetry of our bodies, it is easier for us to walk in a straight line than to follow the path of a curve. True, it is not quite easy to follow a perfectly straight line. When we close our eyes in walking, we may find that, owing to an imperfect symmetry of our bodies, or at least to a difference in the natural stride of the two legs, we tend to turn to the left. But this only serves to suggest that, if we were markedly asymmetrical, the shortest distance between two points might lie in the path of a rather sharp curve. In that case, we could scarcely continue to say that a straight line is the shortest distance between two points; nor again, that a body freely moving must move in a straight line.

All of this may serve to suggest that the aim of science is not merely to find in nature an opaque and unintelligible instrument, still less to record a set of positive and absolute facts, but rather to discover in nature an activity intelligibly motived in like fashion with her own. And when our attention is once directed to this aspect of science, we find the evidences forthcoming on every side. For one more illustration I shall make use of Weissmann's theory of heredity. Looking at evolution in an obvious and popular way, we should be tempted to say, with the Lamarckians, that evolution takes place through the inheritance in the offspring of characters acquired in the life-experience of the parent. But when we try to figure to ourselves any method—that is to say, any mechanism—by which such inheritance could be accomplished, the result seems all but miraculous. That cutting off the tail of a white rat must remotely have an effect upon its offspring seems probable enough; but that it should have just the effect of producing a tailless offspring seems most extraordinary. For this reason Weissmann makes it a point to deny that the experience of the parent is responsible, in the offspring, for any positive character whatever. According to him, all the characters of the offspring are due to what he calls the germ-plasm, which in some way remains independent of the body-plasm and has been passed from parent to child unaltered since the beginning of life.[1] That some characters appear and others

[1] That is, according to the earlier and simpler form of the theory.

fail to appear is due to the selective effect of the environment. But the point of the theory is that no new character is created. The germ-plasm, then, is a mechanism—for Weissmann is careful to insist that his is a mechanical theory of life—which, through all the changes and chances of the environment, keeps the species true to itself.

By this interesting device the Weissmannians conceive that the explanation of the life-process is freed from any implications of purpose or motive. Yet we have only to reflect upon the results accomplished by the germ-plasm to have the question suggested whether these results are not themselves, like the inheritance of acquired characters, all but miraculous. Those who take satisfaction in a mechanical view of nature seem often to forget that, as Bergson reminds us, the type for all mechanical explanations is the activity of man the machinist; and then they forget that in our human world the most automatic machine accomplishes nothing whatever without human guidance. The germ-plasm of Weissmann is supposed to guide the development of the organism automatically in a certain given direction amidst the countless variations of a complex environment. When I try to conceive this in terms of any ordinary mechanical analogy I find myself driven to think of a steamship leaving Sandy Hook with the wheel lashed in the direction of Liverpool. Any one familiar with the operation of steering a ship will know that, in the absence of the constant readjustments made by the man at the wheel, the chances are even that the ship will land upon the coast of South America or of Australia. In biological terms this would mean that what sets out to be a mouse might just as well end in a cow. But in point of fact the language of the mechanical biologists suggests that they too have placed a man at the wheel. For they speak constantly of the 'control' exercised by the germ-plasm, or by the determiners of heredity. Not long ago I ventured to point out to a biologist the teleological implications of that word 'control.' His reply was that biologists must make use of the words that the language affords them. But words stand for conceptions, and conceptions reveal the character of the mind. If our language refuses to lend

itself to the description of a purely mechanical universe, it then becomes a question whether a mechanical universe is humanly conceivable and whether, in fact, the universe is actually conceived as such by men of science.

Hence, I say that the need of a machine for practical purposes, which underlies the logic of instrumentalism, is at the same time a need for a world that shall be humanly intelligible. Remember that I do not reject the practical need; I say only that for a self-conscious being any practical need must be also intellectual. But this is not all. For what our previous analysis shows us is that our needs, though practical and intellectual, are, even in their most practical aspect, *social;* in other words, the mere need of dealing understandingly with nature is a need of dealing with a fellow. To make the point clear let us suppose, in pragmatic fashion, that marriage is an instrument for gratifying the bodily need for sexual intercourse. That this is a practical need, like the need for bread and butter, I think that no honest man can deny. Yet any deep analysis of this need shows us that, even in the coarsest of men, it is a need for fellowship, for the willing response of an 'other,' and that this need survives after the bodily need has grown faint. But the same thing may be shown of the need for bread and butter. At first glance you may be disposed to say that you have no real need for social relations with a baker, but only for a machine which will supply bread. But this, you will doubtless admit, is a reflection of the distracting influences of our modern life, which, by its vastly enlarged means of communication, imposes upon each of us a larger set of social relations than he can properly assimilate. Unless you are a housekeeper, you have probably no dealings with the baker, but receive your bread from the hands of your wife or your household servants. But this only serves to remind us how vital is the need of having our practical wants satisfied by those who are personally interested in us. And if you had to deal personally with the baker, day by day, you could not but feel the need of making your communications cordial; they could hardly remain merely impersonal. Now, it seems to me that a motive of just this kind is implied, only more remotely, in the attitude of the scientist towards

nature. It was clearer in the older scientist, before a convention of respectable impersonality, or a superstition about working for humanity, had forbidden the scientist to be at the same time a poet and a lover of nature. Yet I think it fair to say that the successful men of science are still generally those who select for their scientific study the objects that personally appeal to them. The botanist is a lover of plant life, the physicist a lover of machines. James quotes a saying of the French artisan about his favorite tool, *ça me connait*, it recognizes me; or, it speaks to me. May we not say that the deepest need of the natural scientist in dealing with nature is the need of having nature speak to him? Call this superstition, if you please, but what other motive will you invoke to explain his genuine personal absorption, what other motive will sustain his unwearied pursuit, and how else may we justify his enthusiasm for science as transcending the considerations of practical and social utility?

I hold, then, that if we accept the pragmatic doctrine that truth is determined by our needs and then undertake to make an analysis of our needs, we can find no halting-place for pragmatism short of a complete humanism. This term has been applied to the doctrine both by James and by Schiller. But by 'humanism' I mean a more thorough realism than either seems willing to avow; or, if apologies are due, they are due to Mr. Schiller. I find myself unable to justify the position—to me lackadaisical and sceptical—that pragmatism is merely a 'method' for dealing with experience; for I cannot conceive a method of investigation which does not imply a theory of the nature of what is to be investigated. And to me both 'pragmatism' and 'humanism' imply, even as methods, that we are dealing with a world assumed to be motived in like fashion—as remotely like as you please, yet in like fashion with ourselves. This I take to be the meaning of any whole-hearted humanism. But if this be its meaning, then we are obliged to ask why the teaching of pragmatism falls short of this; why does pragmatism take refuge in instrumentalism? This question brings to our attention the strange reverence of the instrumentalists for the point of view of 'modern science.'

When we venture to suggest that truth is something that is

always being made—and in what sense we may say this I shall ask in the next lecture—we are at once confronted with the fact that in 'modern science,' so called, there is something peculiarly absolute and final. The attitude of modern science is well expressed in Comte's theory of the three stages in the history of thought: first the stage of theological superstition; then the stage of metaphysical abstraction—for Comte not less superstitious; and now, finally, the stage of positive fact. Positive and hard fact—like Mr. Gradgrind, your modern scientist is above all things a man of fact. In this final revelation, human thought, groping through the ages, has found at last its solid basis. In the strictest sense, however, modern science is a matter of the last sixty years. Its gospel of method is to be found in John Stuart Mill's *Logic*. And the peculiar thing is that while Mill and Comte were founding a science of positive fact, Darwin and Spencer and Wallace were introducing a method for the transmutation of all fact under the name of 'evolution.' The theory of evolution suggests clearly that 'modern science' is only one of the stages in a never-ending process. But scientists in general appear to be blind to the implication. And nothing is more offensive to a man of science than to suggest that future ages may look upon our modern science as we now look upon mediaeval scholasticism, simply as one stage in the history of thought.

In the theological and metaphysical stages the world was interpreted from a human point of view. The positive stage appears to have discarded all points of view. Your modern scientist claims to look at facts with the naked eye, and I dare say that, to avoid possible distortions, he would prefer to discard the eye. At any rate he is firm in holding that his thought is in no wise colored by human motives; and to make his point clear he is never weary of a humorous reference to the older days when nature 'abhorred' a vacuum. In his view all humanistic interpretations of nature are anthropomorphic or animistic; and all animism is primitive animism. They belong to that stage of thought in which, for example, the West African negro explains the drowning of his brother on the ground that the river bore him a grudge. In the eye of the man of science, the purpose of

science is to free our thought from all motives whatsoever, to disentangle the fact from the mental processes of the knower and to see it as it is, uncontaminated, dry, hard, cold, and absolute.

Now, I have no wish to suggest a disrespect for science; indeed, such a wish would be rather futile. But I think that respect may always fall short of stupefaction. Much of our recent philosophy seems to have forgotten that one function of philosophy with relation to science is that of an interpreter and a critic. The new realism, of which so much is heard at present, seems to have repeated the experience of Saul on the way to Damascus, but without a corresponding revelation. The same influence has been at work upon the pragmatists, in which, again, they repeat the story of Kant. We have seen how Kant's humanism was cut short by a blind reverence for the Newtonian physics; and how, in his psychology, this resulted in an illogical and wholly artificial separation of reason and desire. In like fashion the logic of pragmatism is cut short at the point of instrumentalism. Like Kant himself, the pragmatist wishes to be in good repute among natural scientists. Which of us, asks Thackeray, would not like to be seen on the arm of a duke? Or, in the present case, on the arm of a millionaire? Yet, as it happens, the scientist of to-day is the typical absolutist. Nothing is so absolute as the absolute fact, and no theory of nature is so rigid in its demands as the mechanical theory. Perhaps we may say that this mechanical logic is just the essence of all absolutism. Yet at the same time it is true that no intellectual movement in the history of the race has been so brilliantly successful in producing tangible results. In the presence of this dilemma the pragmatist demonstrates his regard for modern science by taking the mechanical theory without criticism; and then he makes peace with himself by interpreting the mechanism as an instrument for the satisfaction of practical needs. The result is instrumentalism. By this compromise the path is closed to any further development of a humanistic logic. The very name means that the instrument, now once for all accepted as such, stands as a barrier to any deeper or more human interpretation of our needs. In instrumentalism, as Bergson would say,

thought and logic have congealed. From the standpoint of a pragmatic logic, instrumentalism is an unholy alliance with absolutism.

Now, it seems to me quite possible to suggest a more honorable agreement which will better satisfy both the realistic claims of natural science and the humanistic demands of pragmatism. The terms of this agreement will be outlined in the next lecture. In the few minutes that now remain to me I shall endeavor to show how we may meet some of the objections that lie in the way of a whole-hearted humanism. First we may meet the charge that such a view of the world must be condemned as anthropomorphic by asking how any view of the world which is possible for human beings could fail to be anthropomorphic. How are men to know the world except just in the way that men can know it? How are they to conceive of God except in their own likeness? If the world is wholly foreign to themselves, then how can it be known at all? If it be objected that, at any rate, knowing should be independent of desire, then we may appeal to all human experience to show that knowing is impossible without the illumination of desire. Take any situation you please. Let it be the family dinner-table. Apart from the sympathetic interpretation of personal desire, that scene would be wholly unintelligible; as formless as the arrangement of the stars in the heavens; as meaningless to you as the most mysterious of the ceremonies of primitive life. For the matter of that, you could not even discover the facts. It would not occur to you to suppose that the act of raising the cup to the lips meant the passage of the liquid down the throat. Accordingly, when the modern scientist tells us that he has discarded all points of view and has dispensed with all human interpretations, we may reply by telling him that his position is incomprehensible and absurd; he might as well boast of having discarded his eye. Knowledge, we shall tell him, transcends everything, but discards nothing. Man is a far more independent animal than the lion or the horse, though physically far weaker—not because he ignores the limitations of his physical organism, but because he so thoroughly understands them. In like manner we transcend

the prejudices of our human point of view by becoming aware of them. No error lies in the operation of motives; in an unmotived world there could be no truth. Error arises when the motive is blind to itself.

And therefore when we are charged with 'primitive animism' we shall reply by gently suggesting that there is a difference—a difference as wide as the world—between a primitive animism and an intelligent animism. And the difference is logically of the same order as the difference between a provincial point of view and that of a cosmopolitan and humane culture. The primitive animist corresponds to the provincial American who regards the Frenchman as a monkey, the German as a pig, and the Englishman as a roaring bull, but who is most of all unable to characterize himself. Yet he cannot learn to know the alien races by ignoring his own race or nationality, or by forgetting himself, but only by interpreting their behavior in the light, extended through reason and imagination, of his own motives. To be able to do this is the first sign of intelligence in social life. Why should it not be a sign of intelligence in dealing with nature? It is true that nature, and especially inanimate nature, is inconceivably more remote a neighbor than any of our human fellows. A humanistic philosophy is in no wise logically bound to make the universe smaller or less impressive. It can quite freely admit that there are more things in heaven and earth than are even dreamt of in our philosophy. Let it be so. If we are to have a philosophy, if the universe is to be known, a relation of intercourse must be established between the knower and the known; and no intercourse will be established except so far as the universe can be made in human terms intelligible.

But now there is a more fundamental objection, the consideration of which I have reserved for the next lecture; yet I prefer not to close without a preliminary announcement of the issue. When the pragmatist asserts that the truth is what he finds useful to believe, the realist, or natural scientist, meets him with the question, But what of the facts? And the pragmatist then retorts by saying that any unwelcome experience he will decline to treat as a fact. But this only means, so far as I can see, that

the distinction between truth and fiction is thoroughly artificial and capricious; and this is the charge which is most frequently —and, I should say, justly—laid at the pragmatist's door. The realist will then meet him with the following disjunction: either, he will say, truth is a matter of your needs; and then you will be unable to distinguish truth from fiction—for how could you need anything but truth? Or truth is independent of your needs; and then your needs have nothing to do with it. For only by a miraculously preestablished harmony could you expect that what you need to have true would at the same time be independently true. This disjunction appears to me to be palpably false. Yet it seems to be accepted both by pragmatists and by realists; by the pragmatists when they refuse to discuss the question of independent truth, by the realists when they deny that truth is in any way created by being known. I hold that truth may be both the satisfaction of our needs and independent of our needs; and that unless it is both of these it is not truth. How this may be I shall endeavor to show in the next lecture.

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BERGSON, BERKELEY, AND PHILOSOPHICAL INTUITION.[1]

IN the philosophy of Bergson the doctrine of intuition is of central importance. It is intuition, not conceptual thinking, which brings us into sympathetic acquaintance with mental reality. Contrasted with concepts, it enables us to understand the external and relative character of our thought about the world. In philosophy it conducts us to the center of the metaphysical problem—away from the misleading shell of common knowledge, which is framed for action, to the heart of that evolving creation in which the world consists.

Nevertheless, the precise meaning of intuition is difficult to grasp. The reader finds it so. And Bergson himself affirms the difficulty—or should one say, the impossibility?—of comprehending this central instrument of mind. It is not conceptual. Therefore, it cannot be described in terms of language. Images aid in the advance toward it; but even the last image fails, since it is only an expression, a derivative of the intuition, not the magic form itself. We reach it most nearly, when we study many of its imaged expressions, proximate to their source, and seize the movement of thought, the direction, which in their several ways these images all color, but which severally, also, they all transmit.

In view of this difficulty, Bergson has taken pains to illustrate his intuition by examples. It is compared to the intuition of the writer, who creates his plot; whereas the reader reconstructs it, or seeks to, by putting together the sentences and words. It is like the intuition of the artist, whose colors or whose marble body forth the vision of his work. Words do not compose the story, they express it. The figures on the canvas do not compose the picture, the composition is merely the development of the creative idea. The writer or the artist experiences his art, as by living experience we penetrate to the vision of our inner selves.

[1] Read before the American Philosophical Association, New Haven, December 31, 1913.

But, in the event, intuition proves the instrument of metaphysical knowledge. So there is room for illustration of a different kind. By objective examples, historically attested, philosophical intuition may be shown accomplishing its task. This opportunity Bergson has taken in his paper before the last International Congress of Philosophy, and which the *Revue de Métaphysique et de Morale*[1] has reproduced in printed form. The title of this brilliant discussion is *L'Intuition Philosophique.* Its aim is to show by historical examples that intuition—unique, simple, inexpressible—is the center of all philosophical work, or at least of all philosophy which deserves the name. No great philosopher, it is argued, has ever said more than a single thing. Or rather, he has sought to say but one, the full expression of which itself he has never entirely reached. And this primary intuition is independent of time and circumstance. A philosophical system is not born of the contemporary discussions to which it stands related. These supply only the shell for the animating idea. Like the words of the writer, or as the materials of the artist, they aid in the manifestation of the intuition, in bodying it forth. But they do not constitute it. The generating idea is never a synthesis of pre-existing materials. Neither the scientific theses of the time, nor the results of earlier thinking, make up the central doctrine. It employs these to express its inner meaning, or to develop it. But they neither constitute this meaning, nor do they give it birth. "The philosopher," to quote exactly, "might have come several centuries earlier. In that case he would have had to do with a different philosophy, a different science; he would have proposed other problems; expressed himself through other formulas; not a line, perhaps, of all that he has written might have been the same; and nevertheless he would have said the same thing."[2]

This position Bergson illustrates by Berkeley's system. He finds in Berkeley four "fundamental theses." The first is the *idealism;* the second, the *nominalism;* by the third Berkeley affirms the *reality of spirits and their analysis in terms of will;* the last defends his *theism.* These theses, moreover, interpenetrate.

[1] Vol. 19, 1911, pp. 809–827.

[2] *Op. cit.*, p. 813.

They are not detached, the one isolated from the rest; they mutually imply one another in an organically related whole. But still we have not reached the heart of the Berkeleyan thought. The organic figure brings us near it; yet the organic system is not the soul, but only as it were the body of the thought. And this thought, this intuition cannot be completely stated. Language is conceptual, and explanation restricted to words. Our sole resource must be to find some mediating image (*image médiatrice*), an image perchance which hovered before the mind of the original writer, or which we may by analogy ascribe to him; and let this serve as the shadow to the substance which projects it, as an indication of that which can never be entirely made known.

In Berkeley's case Bergson suggests two such images. The first is visual, but it is only faintly indicated in the original. Matter, under this figure, may be looked on as a thin film, transparent as between God and man when the philosophers let it be,[1] but roughened and thickened to the point of darkness, when they add the notions of substance, of force, and extension to it. The image more fully Berkeleyan is auditory. Matter is the divine language, of which we miss the sense only when metaphysics diverts us from the meaning of the words to the sounds themselves. If we make these independent entities, we lose the message which they bring; if we take them as mere symbols, we catch in measure the significance of the thought. And this meaning, this message is Berkeley's creative intuition, the principle which he had to impress upon the world, the movement, the direction of his thought. As such it informs all his works. The different fundamental theses are only various modes of expressing it, or detailed ideas accruing to the central principle from its contact with contemporary opinion. For Bergson concludes concerning Berkeley as before of philosophy at large:

"In other times, Berkeley would no doubt have formulated other theses; but, the movement being the same, these theses would have been situated in the same way with reference to one another; they would have had the same mutual relation, like new

[1] *Une mince pellicule transparente entre l'homme et Dieu*, p. 819.

words which continue the vehicles of an old meaning; and it would have been the same philosophy."[1]

The more one studies Bergson's argument and compares it with other, extended statements of his doctrine, the more difficult it becomes to frame a simple criticism. Over against much of our historical philosophy, the Bergsonian type seems like that which he most commends—like living insight contrasted with the dead husks of thought. How directly in the present case he leads us to the heart of Berkeley's philosophy. We are arrested neither by the immaterialism, taken for itself alone, nor by the nominalistic empiricism on which the denial of substantial matter was founded. Bergson penetrates more clearly than this to Berkeley's innermost thought. It was theistic idealism or idealistic theism which the good bishop had at heart; and if we miss this, or rather when we miss this, we miss in literal fact the movement, the direction, if you will, the intuition which informs the whole.

So far the temptation to agree is strong. The doctrine of intuition in its historical application and employed by a master of insight does vouchsafe revelations of truth. But when the instance is more concretely tested, doubts of a disturbing kind arise. In the case of Berkeley, more than in regard to many thinkers, the later world possesses the records of his philosophical activity. We know the contemporary conditions to which his idealism was an answer. We have his *Commonplace Book*, which details the questions that passed through his mind during the early fruitful years at Dublin. We possess accounts from friends and from critics of the youthful genius. We can follow his development through the conflicts with the Freethinkers to the culmination in the Platonizing idealism of the final phase. And when Bergson's results are compared with these indubitable records, it becomes less possible to accept them. Or rather, the doubt should be put more sharply: when his account of Berkeley is compared with the historical data, his conclusions appear of a hazardous sort.

As an example we may consider the thesis that Berkeley said

[1] *Op. cit.*, p. 820.

but one thing, with all his other doctrines merely ancillary to the central theme. Now Berkeley did say one thing, said it supremely, as Bergson has so finely pointed out. This principle, moreover, was conceived in Berkeley's earliest years. In the works which he himself published it is announced only by degrees. And scholars are aware that there were stages in the development of the principle, even after it had been announced. From the *Theory of Vision* to *Siris* there is progress in Berkeley's conception of his own doctrine as well as in his communication of it to a scoffing world. But the young student at Trinity College had grasped the principle which was to direct the speculation of the Bishop of Cloyne. He was busy with the problems suggested by Locke's *Essay;* he was at grips with the implications of mechanical science, at war with Deism and freethinking. Deliverance comes through the idealistic conception of the world. "I wonder not at my sagacity in discovering the obvious tho' amazing truth"—so he exclaims in the *Commonplace Book*—"I rather wonder at my stupid inadvertency in not finding it out before—'tis no witchcraft to see."[1] And again, he writes in the last entry, as he looks forward to the Treatise which was to follow: "The whole directed to practise and morality—as appears first, from making manifest the nearness and omnipresence of God; secondly, from cutting off the useless labor of sciences, and so forth."[2]

Theistic immaterialism, then, formed Berkeley's central aim. But was it the sole purpose of his thinking? Were there no other motives present from the start? At this point also the records are suggestive. Indeed, the answer is hinted by the second of the passages which have just been quoted. For it is evident that Berkeley's interest is not confined to his religious philosophy. He plans to reform the sciences as well as to defend the faith. Mathematics, for example, early attracted his attention. In fact, he rates his knowledge of the discipline higher than mathematicians by profession are willing to allow. But mathematics, like metaphysics, suffers under the misleading doctrine of abstraction. To escape, it must discard the conceptions of the schools. Abstract ideas of number, extension in the abstract,

[1] *Works*, Fraser's edition, 1901, Vol. I, p. 80.

[2] *Ibid.*, p. 92.

infinite divisibility, and the like—such notions must be banished, if the science is to be securely grounded.[1] Their presence here is as pernicious as in metaphysical thought. The one salvation for both disciplines is to reduce them to terms of concrete experience, "to remove the mist or veil of words" which "has ruined the schoolmen and mathematicians, lawyers and divines."[2]

Similar conclusions hold for Berkeley's view of natural philosophy, as it then was called.[3] Indeed, in his view and in his phrase, the "doctrine of abstraction [is] of very evil consequence in all the sciences,"[4] and "words have ruined and overrun" them all.[5] And now we know the conditions which suggested this conclusion. It is Locke's *Essay* which Berkeley studies, and Locke's doctrine which, by criticism, he develops to his own. The *Commonplace Book*, the Introduction to the *Principles*, in fact, all the earlier works abound in references, in quotations, in arguments which make the connection clear as few connections are demonstrated in the history of opinion.

Two results, then, are established: Berkeley's nominalism was not confined to his idealistic doctrine; in large measure, it was suggested by his study of Locke. But these conclusions Bergson would no doubt accept.[6] The crux appears if we consider the relation of the nominalism to the central principle. Was the former merely the vehicle of the idealism? Was it Berkeley's instrument simply; an instrument, moreover, which proved inconvenient as his doctrine developed, which required modification or even partial abandonment in the later stages of his thought? Is it true that this and the other fundamental theses, although they formed organic factors in Berkeleyanism, were nevertheless

[1] Cf., *e. g.*, *Principles of Human Knowledge*, §§ 118–132; *De Motu*, §§ 52–65; *The Analyst*, §§ 35–7, Queries 7, 8, 20; *A Defense of Free-thinking in Mathematics*, §§ 45–8.

[2] *Commonplace Book*, p. 33.

[3] *Cf., e. g., Principles of Human Knowledge*, §§ 101–117; *De Motu, passim.*

[4] *Commonplace Book*, p. 26.

[5] *Ibid.*, p. 40.

[6] Although it is difficult to understand the incidental nature of the reference to Locke in the following account of Berkeley's forerunners: *Ainsi, avec des philosophes déjà anciens ou même, si l'on ne veut pas remonter trop haut, avec Descartes et Hobbes, auxquels on pourra adjoindre Locke, on aura les éléments nécessaires à la reconstitution extérieure de la philosophie de Berkeley. . . . op. cit.*, p. 815.

relative and incidental—media of expression merely, adopted by the central intuition "because it encountered on its way the ideas and the problems" of the time?[1] The issue, it must be admitted, is complex. Complete demonstration perhaps is not attainable. Despite the abundance of the historical evidence, it is possible to argue that the conditions from which Berkeley's nominalism sprang acted simply by suggestion; that the nominalism was not a constituent of the principal thesis; that, at most, it served to call forth the idealistic theism, or, as Bergson might phrase it, to manifest it forth.

But while this view is technically defensible, it seems a hazardous conclusion. The data do not forbid it absolutely, but they render it to a high degree improbable. We can imagine Berkeley possessed of—or should we rather say, possessed by?—his chief thesis and centering around this the ideas which he gathers on his course. He studies Locke and Newton; he meditates on Deism; as the years increase and the way grows somber, he is oppressed by the practical evils of his time. For all such "the principle" supplies the panacea. Besides it naught is of essential value, nothing other than expression, mediation, or detail. And these are added to the principle; they do not enter into it or constitute its parts. It does not arise from them in any measure; they derive their significance from it, and in other times or circumstances it would have used symbols of a different type. It is possible, abstractly possible, so to conceive the situation. But the view flies in the teeth of all historical probability. Contemporary ideas meant much more for Berkeleyanism than media of expression; they supplied the conditions of its existence. By accepting—or, more often, by rejecting—them Berkeley created his own system. Factors which they supplied, or views which he evolved to counteract them, entered into his philosophy as constituent elements of its life. So *a fortiori* of the principles which Bergson terms the fundamental theses. It is impossible to believe Berkeley possessed of some one of these, even the supreme one, first, before the others in time, and adding the latter as symbols subsequently acquired. It is difficult, nay, it is

[1] Bergson, *op. cit.*, p. 820.

hazardous to suppose that any one was logically prior in the absolute sense and altogether dominant of the rest. The historical data, fairly construed, yield a different picture. We see a mobile thinker, quick, creative from his earliest years. He is absorbed in the problems of his age, the while he transforms them by his genius. There is indeed an informing spirit in his philosophy, a movement, a direction, if you will, an intuition, which pervades the whole. But this is no transcendent principle, detachable from all conditions and forms. When we so interpret it, do we not in fact repeat the fallacy of abstract conception which Berkeley and Bergson both invite us to abjure? If it is fatal to overlook the spirit of the system, it is also error to think it apart from its integral elements. These do not constitute it by any form of simple combination. But neither does it exist in independence of them, nor without them exert its influence in the world.

In the paper cited the broader implications of the discussion are brought in as corollaries of the principal argument. As Berkeley's system was related to the ideas of his time, so—Bergson contends—philosophy stands related to the sciences. It is not a mere summation of the results of these, nor derived from them by any synthetic process. Philosophy and science, on the contrary, specifically differ. Their methods, their instruments, their outcome are of contrasted types. Science is conceptual, divisive, and if one may use the word, multiple. Philosophy proceeds by intuition; it is a simple process; it penetrates to the center of the evolving world. It uses the sciences, indeed, and adjusts its statements to them. But the connection is not motived by the sciences; the impulse comes from within, unsuggested by outer conditions. Or to quote Bergson's words: "The work through which philosophy appears to assimilate the results of positive science, like the operation in the course of which a philosophy seems to reassemble the fragments of earlier philosophies, is not a synthesis, but an analysis."[1] And again, *philosopher est un acte simple.*[2]

In relation to this conclusion only one question can now be

[1] *Op. cit.*, p. 824.
[2] *Ibid.*, p. 825.

suggested: How does it harmonize with Bergson's own example? Would the world have benefited by his incisive thinking, would he have possessed his own intuition, had the scientific progress of the last two generations been other than it was? Suppose Darwin had never written, would the new philosophy have been the same, only expressed in a different 'language'? And is biological evolution merely an outward detail of the doctrine —or one of its constituent and fundamental factors? In truth, the relation of philosophy and science does resemble the interrelation of philosophical systems. In neither case is the procedure mere summation—but, on the other hand, is it ever mere utilization, mere expression? A philosopher works under the conditions of his time; a genius, he refashions and transforms them. Philosophy rethinks scientific conclusions in the light of its own concepts. The work of each is more than combination; but I do not see how it can be exalted—or degraded—into manifestation alone.

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REVIEWS OF BOOKS.

Abhandlungen Zur Erkentnisstheorie und Gegenstandstheorie. Von Alexius Meinong (Gesammelte Abhandlungen, II Band) Leipzig, J. A. Barth, 1913. —pp. x, 554.

This volume is the second of a projected series, which shall ultimately include the many and varied contributions which Meinong has made to philosophy and psychology in thirty-five years or more of continuous and fruitful labor. When completed, the collection will contain, beside the present volume, one on Psychology and one made up of papers dealing with Theory of Value and various other topics.

The repeated demand for new editions of some of Meinong's more important monographs, the *Theory of Relations* (1882), and the *Theory of Value* (1894), is in itself sufficient occasion for the contemplation of some plan by means by which they might be made accessible. For the unusually elaborate and comprehensive character of the present undertaking the editors, five of Meinong's former pupils, have found their justification in the peculiar unity and continuity of the work of this investigator to whom philosophical students are learning more and more to turn for scientific stimulus and exact method. That their conscientious work is also a labor of love is emphasized by the choice of this means of doing honor to their teacher on the occasion of his sixtieth birthday.

Under the editorial supervision of Professor Alois Höfler of Vienna, a system of notes has been developed which gives a complete view of the relation of these papers to each other, as well as to the author's later works. Wherever he has retracted or modified important positions the fact is carefully noted, and in matters both of thought and terminology the earlier works are brought fully up to date. The notes to the present volume are furnished by Professor S. Witasek, and Drs. E. Mally, W. Benussi-Liel, and A. Fischer, and the editorial work in each case is exceptionally well done. The editors have also furnished a complete list of Meinong's published works and an extensive index.

The "famous discoverer of the Gegenstandstheorie" as a French critic has called him, has long seen in the elaboration of a "theory of objects" the goal of all his labors. It is in this spirit that his as yet

unpublished lectures in Gegenstandstheorie and Logik are conceived and his reconstruction of Werttheorie is taking place. It is this conception of Gegenstandstheorie also, which the editors recognize as the immanental end, so to speak, of the present collection of papers. Measured by this standard, the first paper, "Zur Relationstheorie" (*Hume-Studien* II), (1882) represents, it is true, an 'überwundener Standpunkt.' Relations are still conceived as a wholly psychological matter. It is not indeed until the later paper, "Über Gegenstandstheorie" (1904), that we find the theory of relations finally subsumed under a general theory of objects. In the meantime, the whole question of relations and complexes has been worked over in his paper, "Zur Psychologie der Complexionen und Relationen," where he opposes the subjective view for the first time, and in the *Erfahrungsgrundlagen unseres Wissens*, where the objectivity of relations is made a central point in one of the strongest arguments for realism. Read, however, in the light of the paper on "Gegenstandstheorie," the notes to both of which are furnished by Dr. Mally, it furnishes not only one of the most important of Meinong's contributions, but also what is still one of the best introductions to the whole problem of relations.

The second paper, "Zur Erkenntnisstheoretischen Würdigung des Gedächtnisses," is one which is perhaps least known to English readers, but which will especially repay careful study. In this early paper (1886), will be found a line of thought somewhat similar to the argument for intuitive judgments of memory which Mr. Russell has made familiar, but incomparably better worked out. Here appears also for the first time, one of the most original and also most difficult of Meinong's conceptions, namely that of conjectural evidence (Evidenz für Vermutungen) and the doctrine of an immediate evidence for probability which it seems to imply. Prior to this study only evidence for certainty was recognized, but the obviously intuitive character of the memory judgment, combined with its equally obvious lack of certainty, forced into prominence the idea of "conjectural," as a peculiar kind of evidence. The extent to which this concept has figured in Meinong's later investigations is well known to those familiar with the *Erfahrungsgrundlagen*, where it serves as the starting-point for a new solution of the old problem of the knowledge of the outer world, and with *Über Annahmen*, where the problems of possibility and probability, with the special evidence that attaches to them, appear more and more in the foreground. The wholly objective theory which he has been developing (see notes 23, 24, pp. 212–13) is to find a final formulation in his forthcoming book, *Über Möglichkeit und Wahrscheinlichkeit.*

The third and fourth papers, "Uber die Bedeutung des Weberischen Gesetzes," and "Über Gegenstände höherer Ordnung und deren Verhältniss zur inneren Wahrnehmung," scarcely require any special notice here. Their contents are too well known, their discussion is a part of psychological history, and has, indeed, found its way into the text-books. But for the retrospective eye they have still another kind of interest, for they reveal the essentially 'scientific' origin of the 'Gegenstandstheorie,' and emphasize that characteristic of all Meinong's thinking, the start from the specific problem. "Weber's Law" is in part a dispute with J. von Kries over the possibility of mental measurement of intensive magnitudes in particular, but it ends in a general theory of quantity and measurement which was later to find its place as a part of Gegenstandstheorie in the *Untersuchungen*. The treatise on "Objects of Higher Order" is in part a dispute with F. Schumann, occasioned by the latter's attack upon the purely psychological positions in Meinong's earlier paper, "Zur Psychologie der Complexionen und Relationen," but it is also a long step in the direction of the clear distinction between psychology and Gegenstandstheorie.

As to the first, Meinong would doubtless now rewrite much of his "Weber's Law." Some of his later views may indeed be found in one of the contributions to the *Untersuchungen*, "Zur Gegenstandstheorie des Messens." But even here, as Witasek in his notes points out, the result is not psychological, but rather a part of the theory of relations or objects in general. For the various physiological, psycho-physical and psychological interpretations of Weber's Law is explicitly substituted an interpretation which brings it under a general theory of relations, later to be developed as a part of the general theory of objects.

The same general development is even more clearly seen in the paper on "Objects of Higher Order." Here the denial by Schumann that "inner perception" gives any evidence of the presentation of such objects, leads to a critical over-hauling of the entire concept of apprehension (Erfassen) of objects, with its tacit identification of such apprehension with presentation (Vorstellung). From the difficulties involved in the idea of presentation of relations and complexes, Meinong is led to his doctrine of judgment and assumption developed in Chapter 8 of *Über Annahmen* (see note 26, p. 474). In the classification of objects, complexes, and relations, one finds also a step in the general progress toward the systematic treatment of the Gegenstandstheorie.

This review has sought to suggest the salient points which a re-reading of these papers would bring to mind. It might equally well, perhaps better, have followed a topical method, which the admirable notes would have made easily possible. One might follow the development of the concept of the *apriori* in Meinong's thought (actually made use of by the editors in the introduction to show the use of the notes. Or one might trace, in close relation to this, his doctrine of evidence, the notes upon which point alone (see p. 182, (note 128), p. 176 (36), p. 174 (13), p. 211 (14), etc.) furnish a complete view of his position,—a position, moreover, which, with its distinctions between certainty and evidence, (according to which, while certainty is a variable determinant of *acts* of judgment and assumption, evidence is a constant part of the *objective content* of judgments and assumptions) and between evidence for certainty and for possibility and probability, constitutes by far the most adequate and consistent theory of evidence yet developed. A number of such topics suggest themselves, such as his doctrine of apprehension, of objects and objectives of various types, cognitive and emotional, and his theory of judgment and assumption. All of which would not only serve to bring out Meinong's most important contributions, but also to show the development of his thought from 'psychologism' to a 'theory of objectivity.'

The paper, "Über Gegenstandstheorie," which closes the collection, is well known through the discussion and criticism of the *Untersuchungen zur Gegenstandstheorie und Psychologie* in which it first appeared. It has also been given an extended review in this Journal (Jan., 1906). Doubt as to the sufficient basis for such a science—of a science which "should be concerned with the given entirely without reference to its existence," and "to which," accordingly, "all that which can be known directly from the nature of the object, therefore *a priori*, should belong," has been pretty generally expressed, and in the review referred to the present writer shared that doubt. It is only fair to say that, viewed in the perspective which the present collection affords, Meinong's contention for the need of such a science receives additional justification. One becomes aware of a growing accumulation of problems which the methods of psychology, logic, and epistemology cannot solve, and of the existence of objects of thought and knowledge which only with difficulty find a place within their boundaries. Meinong's arguments against the identification of the 'theory of objects' with 'pure logic' have seemed to the present writer more and more convincing; and if, as he claims, and the claim is not without justification, science and

philosophy have long been unconsciously engaged with problems of Gegenstandstheorie, and much of it is to be found in the philosophies of the day without bearing the name, it is desirable that such a body of knowledge should be fully and consistently developed.

Meinong is certainly the most individual, and in some respects the most notable, of the many who have come up out of psychologism into the 'promised land' of a theory of objectivity. To attempt to estimate the place of his investigations in this general movement would doubtless be as undesirable as futile. The judicious reader has long since learned to note a community of ideas where differences of terminology and of the schools tend to obscure relations. For the study of this movement, however, this collection of papers,—retracing as it does the steps of one who was breaking his way through, making his own tools as he went, years before the problem had attained its present importance, affords a document of no slight importance.

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Dante and Aquinas. By PHILIP H. WICKSTEED. London and Toronto, J. M. Dent and Sons. New York, E. P. Dutton and Company, 1913.—pp. ix, 271.

This lucid treatise, "being the substance of the Jowett Lectures of 1911," is one more sign of the growing semipopular interest in mediaeval culture taken as a whole—scholastic philosophy not excluded. Time was, and not so long ago, when the general reader, though not indifferent to Gothic architecture, or to the *Inferno* of Dante, yet blind to the glory of the *Paradiso*, conceived of mediaeval thinkers as busied with puerile contentions about the number of angels that could dance on the point of a needle, or the bearing of the doctrine of transubstantiation if a mouse partook of the bread which was the body of Christ. In fact, the general reader did precisely what he accused Aquinas and the rest of doing; he failed to look at things with his own eyes before pronouncing judgment. A glance, not at some superficial sketch of the history of philosophy, but, let us say, at the *Summa* of Aquinas itself, is enough to convince one that there was a subject which the mediaeval mind investigated at first hand as well as systematically; and that subject was human conduct, bad and good, its nature and results. This, of course, is the subject matter of Dante's poem, which is an epitome of the Middle Ages, as every one would allow. But our generation is also on the point of discovering that there is an essential relation between the great, orderly, imaginative

structure of scholastic philosophy, the architectonics, as one might say, of mediaeval thought, and the quality of mind and feeling embodied in the French cathedrals and in the grand structure of the *Divine Comedy;* in other words, that we cannot understand in its larger aspects the life of the period which gave ours life, we cannot sympathize with the manifestations of vital energy in the art of modern times, as opposed to classical antiquity, without rectifying our notions of scholastic philosophy.

Naturally, any wide-spread understanding of mediaeval thought among casual students of literature must be preceded by the investigations of specialists, and ushered in by comprehensive works of a more popular sort like Henry Osborn Taylor's excellent volumes on *The Mediaeval Mind.* How great has been the renaissance of scholarly interest in the main intellectual movement of the Middle Ages was ably shown five years ago by Dr. Joseph L. Perrier, whose monograph on *The Revival of Scholastic Philosophy in the Nineteenth Century* is itself an additional evidence of the tendency he chose to demonstrate. The extensive modern literature which he discovered, emanating not merely from Roman Catholic sources, but from Protestant as well, has been considerably augmented since he published his collections. Aside from the work of Taylor, I am unaware of a more significant addition than the present volume by the Rev. Mr. Wicksteed, representing lectures that were prepared for a characteristic English audience, and are now recast for publication in England and America.

Mr. Wicksteed is a Unitarian clergyman, a lecturer on various topics, and an accomplished one, if we may judge from his style in the present instance; a scholar who has previously rendered valuable service in translating the Latin works of Dante, and in commenting upon the *Divine Comedy.* As a final authority in the very exacting field of Dantesque interpretation and criticism he is hardly the equal of Dr. Moore or Dr. Toynbee, or of a few men of learning on the Continent. The method in his latest study will appear as we proceed. Here it may be noted that he has not troubled himself with an index, and that apart from his citations by chapter and verse from Aquinas and Dante, his references to sources and authorities are general. It would seem that he has not read Ozanam on *Dante and Catholic Philosophy in the Thirteenth Century*—one of the titles in Dr. Perrier's eighty-eight pages of Bibliography—which, though produced about sixty years ago, remains the most important work on the subject; nor is there evidence that he has consulted Delff's *Dante und seine Meister,* or Bisogno's *S. Bonaventura e Dante,* or the studies on this and related

topics by Carbonara. Such literature is easily found in Koch's *Catalogue of the Dante Collection* of Willard Fiske. Is this indispensable piece of apparatus not commonly used by students of Dante in England?

What Mr. Wicksteed has done may be briefly described, or gathered from scattered passages in his volume. In Chapters I, II, and III, he sketches the history of philosophy from the early Greek cosmologists to Aquinas, in so far as it may bear upon the ideas of Dante; by an adroit synthesis he makes the entire course of previous speculation find its meaning, and attain its end, in the poet. "On some of the ground" thus "rapidly traversed" the author is, as he says, "but a casual traveler," and frankly dependent "upon the secondary sources cited." These sources, though good, are not always the best. But the resulting chapters, on "Mediaeval Thought and Greek Philosophy," on "Neoplatonism and the Christian Neoplatonists," and on "The Migrations of Aristotle and the Transformations of Aristotelianism," are admirably suited to their purpose. They supply a background which is wanting in Ozanam, and in themselves would make the book worth while to students of Dante. The perspective is excellent, and the author's skill in rendering abstractions clear and entertaining is quite unusual. The remaining six chapters deal first with Aquinas, then with the general relations between him and Dante, then with the Scholastic and Dantesque psychology, and finally with the bearing of Aquinas on the *Inferno*, *Purgatorio*, and *Paradiso*. In Chapters VII and VIII emphasis is laid upon points in which the two men differ. In Chapter IX there is perhaps too much stress on the similarity in their conceptions of Heaven. Chapters III–IX are followed each by an appendix, containing for the most part well-chosen passages from Aquinas to illustrate and corroborate the utterances in the lectures. The volume closes with a "Postscript to Chapter VI" ("Psychology and the Doctrine of the Soul") on Aquinas and free will in God and man.

In the main part of his work, Mr. Wicksteed, who is well-versed in the writings of Dante, limits himself to the comparison with Aquinas suggested by his title, scarcely touching upon other thirteenth-century scholars, or upon the way in which their ideas are reflected in the *Divine Comedy*. He has read much, but not all, of Aquinas, who produced on an average one double-column folio volume of five hundred pages per annum during the two decades of his literary career; and he remarks:

"I am very far indeed from professing to have covered the whole

of this stupendous mass of work, but the continuous and careful study of thousands of pages of it and frequent consultations of the volumes [in actual number, twenty-five] up and down, during many years, have left me with the vivid impression that in the whole of this output the cutting edge of Thomas's mind is never to be found blunted. His whole material is always under command. Whatever he says on any subject he says in relation to his thought on every other subject. I may add that a few attempts at translation will be enough to teach any competent student to appreciate the condensed precision of the thought and the pregnant felicity of diction that characterize this great writer" (p. 96).

We subjoin one or two more 'impressions' respecting Aquinas:

"Both he and his master Albert are . . . clear in their assertion that on certain points Aristotle's teaching was erroneous and dangerous." Yet he found in the works of that author "an accepted method and canons of reasoning and investigation, and a cyclopedia of systematized science and philosophy" (p. 97). "Something has already been said of his never-dulled intellectual keenness. No less striking is his unflinching honesty. . . . Again and again we read with amazement his concise and forceful expression of objections, against which he perhaps has nothing equally clear and penetrating to urge. . . . He himself in later years confessed to a friend that he had never had a book in his hands, the contents of which he had not been able to master. And with him mastering a book meant bringing it into relation with everything that was already in his mind. . . . In later life, we learn, when he was dictating it was as if everything was in perfect form and order in his mind. He could dictate to three or four secretaries at once. . . . The certainty and firmness of his treatment of the vast variety of subjects with which he deals is not the result of elaborate tentatives and rearrangement. His advance follows the spontaneous swing of his mind, and he plants each point in its true place with unfailing precision. Like the blameless painter, he never makes a false stroke with his brush" (pp. 112–113).

Virtually all the characteristics we find in the great mediaeval scholar are evident in the poet. Dante's whole material also is always under command. Whatever he says in any part of his poem he says in relation to his thought in every other part of it. Upon a solid foundation of reason and good sense

> Uprose this poem of the earth and air,
> This mediæval miracle of song.

And he never makes a false stroke with his chisel. We may quote a few significant passages on Dante:

"The impression is often retained by more advanced students that Dante carries science and philosophy to the furthest limits which had been reached in his age. It is only after detailed study that we learn to appreciate the artistic tact and self-restraint with which he refrains from pushing his science, philosophy, or even theology, a step beyond the boundaries within which they can support his ethical, religious, and poetical purposes; and at the same time his boldness and independence in handling them, and the moulding ascendency of his own mind . . . He deliberately ignores, for the sake of simplicity and picturesque effect, the distinction between the constellations and the signs of the zodiac. . . . He used his science to give vividness and firmness to his pictorial presentation of the journey, carrying it just as far as he thought an educated man could follow without an appeal to books of reference, but no further. . . . And it is just the same with his theology, his philosophy, and his technical psychology. . . . But there is more than this. Dante not only knows where to stop himself, but he knows where science stops" (pp. 188–189).

The main point of agreement between Poet and Scholar lies in their mediaeval treatment of love:

"Very closely related to the scholastic and Dantesque psychology, including the doctrine of free will, is the conception of love in its widest range. Love is used in many senses, both by Dante and Aquinas. It sometimes stands for the whole range of cosmic forces. The inmost trend of the nature of anything, animate or inanimate, conscious or unconscious, is thought and spoken of as its love. Thus the stone loves the centre towards which it falls, the flame the circumference to which it ascends. All that we speak of as 'attraction' is included by the mediaeval writers, without any sense of strain or improper metaphor, in the term love. And it is perhaps significant that if we want a term that includes the falling of a stone and the yearning of the soul for goodness, beauty, and truth, we use the term 'attraction,' which is primarily a physical conception, but which we extend without sense of breach to the most abstract and spiritual relations; whereas the mediaeval mind fixed upon 'love,' primarily a spiritual conception, and imported it with no sense of discontinuity into the most elemental of physical phenomena." What we might call chemical attraction "Dante speaks of as the 'love of compound bodies for the place ordained for their generation, wherein they accrue, and whence they draw their vigor and power.' And so on, up through plant love, corresponding with the most elementary form of soul, or vital principle, the functions of which are confined to nutrition and

reproduction; the animal love which is connected with sense impressions and desires; and the human love for perfect and noble things—the instinctive attraction to beauty, goodness, and truth. When Dante speaks of love, it is generally this noble and specifically human love that he has in mind, but he also frequently recognizes it in its widest meaning. Love in the wider sense is the sole motive power of the universe, and therefore no conscious or unconscious being can be actuated by any other principle" (pp. 162–163).

In this last passage, the words, "he also frequently recognizes it in its widest meaning," are misleading; for divine love, the universal principle of things, the source of life and light and motion, is the dominating conception in the great poem from beginning to end; it is not by accident that the *Paradiso* begins with "The glory of Him who moves all things," and closes with "the Love which moves the sun and all the stars." Though Dante's subject matter be human conduct, the 'form' that is set upon that indigest is divine; he has not written a *Comédie Humaine.* To Dante, as Mr. Wicksteed well says of Aquinas,

"God . . . is the source and goal, the sustainer and inspirer of all that we feel and know of goodness." Further: "That Goodness derives all its meaning, power, and loveliness from some as yet imperfectly understood relation to Him, the full revelation of which will interpret, complete, and transfigure it. All men desire blessedness, and as we feel our way towards the true blessedness, whether by reason alone or aided by revelation, we feel more and more surely that blessedness is only to be found in communion with the central reality and primal cause that we call God. As we know more he is more and more felt as the all-concentrating object of love and desire. And what else is the *Summum Bonum* but the supreme object of enlightened and purified love and longing here, and love and fruition hereafter?"

This goodness supplies the motive of Dante's poetry even in the *Inferno:* "But to treat of the good which I there found, I will tell of the other things which there I marked." And it continues as the object of his search, and the soul of his poem, to the end of the *Paradiso,* where the ardor of his longing found its timeless satisfaction: "I mingled my looks with the Goodness that has no end."

Mr. Wicksteed is bent upon showing not only the similarities but also the differences between the men he is comparing; thus:

"Aquinas and Dante are at one in representing the damned as impenitent. The former repeatedly declares that they do not repent

of their sins, but only hate their punishment. But yet he frequently speaks of the 'worm' or 'gnawing' of conscience as a part of their torment. And this gives us the impression that he did not hold with so firm a grasp as Dante did the full consequences of their common principle that there has been no change in the sinner's sense of moral values. This is an essential feature of Dante's hell. The souls have just the same preferences that they had on earth. . . . They curse the parents who begat them, or the accomplices that seduced or betrayed them, never their own inherently evil choice, for they still cling to it." According to Aquinas, says his interpreter: "The punishment is imposed upon the sinner by the sentence of a court simply on the ground that he deserves to be punished." But the reader of Dante's Inferno "feels, vaguely at first perhaps, . . . that whereas others have said and say, 'By the justice of God the sinner gets what he *deserves*,' Dante sees exactly what the sinner *chose*, and conceives of the Divine Justice as giving him that." Again: "As Dante passes with Virgil by the morass in which the passionate are tearing each other, he sees bubbles rising and breaking upon the surface. His guide tells him that they rise from the throats of the sullen souls that lie in the mud at the bottom of the morass. They cry: 'Dismal we were in the sweet air, which the sun gladdens, nursing in our hearts the sullen fumes. Now we are dismal in this black mud.' That is what sulking is. It is a deliberate and sustained effort to shut out the light and air of human fellowship, friendship, affection, and comfort, and to nurse sullen fumes in the heart, in the hope that this conduct may hurt others. 'Dismal we were in the sweet air which the sun makes glad, nursing in our hearts the sullen fumes.' That is what the sulky chose. To be in hell they have only to get it." And again: "Dante's treatment illuminates the whole subject of evil choice, burning and freezing into our hearts the sense of the nature and meaning of sin itself; whereas Aquinas only insists on the awfulness of its consequences. But above all, Dante does not explain hell, though he informs it with a solemn meaning. Aquinas does not make it mean anything; but he explains it as included in the act by which God wills his own goodness."

His Unitarian sympathies, it may be, put Mr. Wicksteed out of humor with "the conception of an eternal hell shared alike by Aquinas and Dante"; and he protests "against the Christian Church having added to all the mysteries of the universe that we cannot escape the gratuitous horror of this dogma." Has he failed to observe that pagan, semi-pagan, and Christian poets alike, from Homer and Virgil

to Dante, and from Dante to Spenser and Milton, and so on down to Goethe—yes, even to Mr. Kipling, have found it a necessary conception in human poetry. It requires a severe imagination to conceive of a habit of choice so excellent as to be eternally good, and to invest it with eternal glory; the stern imagination of the greatest poets will not shrink from conceiving of a choice so vile and grotesque as to be eternally evil, and will clothe it in endless ridicule and horror, so long as human poetry endures. As for what Scartazzini in the first systematic treatment of the subject (1877) called *die Congruenz der Sünden und Strafen in Dante's Hölle*, it is often thought to be the most original idea in the *Divine Comedy*—according to the lay interpretation of originality. Yet we must bear in mind that the chief mark of genius is the ability to assimilate and organize ideas that every well-educated man discovers in his reading. Dante is chiefly original in abstracting for himself, from sources that to him were ultimate, the fundamental conceptions of humanity, and in combining what he has abstracted, according to universal laws.

Partly from a desire to make evident Dante's originality in the popular sense, partly because he has confined himself to one philosopher of the thirteenth century, our author runs the risk of attributing to Dantesque invention all the main differences he finds between the poet and Aquinas. In one case (p. 201), noted above, he implies that Dante is unlike Aquinas in not explaining hell "as included in the act by which God wills his own goodness." Is not the doctrine contained in the familiar inscription over the entrance to the woeful city? —"Justice moved my high Maker; my maker was the power of God, the supreme wisdom, and the primal love." In the face of that, how can one say, "But above all, Dante does not explain hell"? Again, Mr. Wicksteed observes that Dante differs from Aquinas in conceiving of "first matter" as created not "under a number of different forms," but "as a pure potentiality." Here, of course, Dante, if he departs from the teaching of the Dominican school, is not altogether idiosyncratic, but approaches the conception held by the opposite, Franciscan school, represented in the *Divine Comedy* by Bonaventura. Thus Delff, who runs to his own extreme, and wishes to prove that the philosophy of the Divine Comedy is derived from Bonaventura, and not from Aquinas, points out that Bonaventura identifies matter and potentiality. The entire problem of the resemblances between Dante and the Doctor Seraphicus is ignored by Mr. Wicksteed. Nothing is said of the fact that Dante's division of sins, which is different from that of Aquinas, is parallel to that of Bonaventura. Nothing is

said of the greater suitability of the more popular philosophy to the comprehension of the ordinary reader, and hence to the function of the Divine Comedy. Aquinas wrote rather for the learned. And nothing is said of the point which Ozanam and others have dwelt upon, that the mystical spirit of Bonaventura is on the whole closer than the ratiocinations of Aquinas to the soaring vision of the most high poet.

But to the vexing question whether the Dominican or the Franciscan school worked more powerfully upon the mind of Dante it is hard to give a positive answer. Possibly one may say that, on the whole, the writings of Aquinas serve better to illustrate the earlier parts of the *Divine Comedy*, except with reference to the division of sins, and the works of Bonaventura, especially the *Itinerarium Mentis ad Deum*, throw more light upon the *Paradiso*. Yet the two philosophers constitute but a segment of the great orb of Dante's learning. The Doctor Angelicus and Doctor Seraphicus, with Albertus Magnus as a third lover of wisdom, are placed by Dante in the Heaven of the Sun, among the spirits of eminent theologians; they are highly important in his estimation, but they are not his ultimate guides. It is Bernard who finally leads him to the contemplation of the Divine Essence. Dante's own attitude to the opposing schools may perhaps be inferred from the way in which he introduces their leaders and their founders. He makes the leader of each recount the life of the founder of the other. Aquinas, having mentioned eleven of his companions, including Albert, Solomon, and Boethius, after a pause goes on to tell the story of Saint Francis; then Bonaventura, having related the life of Saint Dominic, proceeds to name himself and eleven other spirits with him, including Hugh of St. Victor, Petrus Comestor, and Chrysostom.

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Esquisse d'une interprétation du monde. Par ALFRED FOUILLÉE. Paris, Félix Alcan, 1913.—pp. lxvi, 417.

At the end of a long and prolific life of thought, Fouillée left a note under the date of March, 1911, containing these words: "Restent à publier: 1, L'Esquisse d'une interprétation du monde, dont les principales parties sont achevées; 2, Les Équivalents philosophiques de la religion." The present volume contains the first of these works in fairly finished form, together with fragments of the second and various metaphysical notes in an appendix. The editing is well done, and the work as a whole is a significant contribution to metaphysics.

It is more than a unification of the various familiar phases of the author's thought; it is a serious effort to deal anew with the cosmological problem, with the Kantian criticism as a background, and with contemporary movements in philosophy vividly in mind. A reminiscent note is occasionally apparent throughout the volume: the author is interested in vindicating his place as a prophet of the metaphysics of experience prior to contemporary intuitionism, and of the working-power of ideas before Nietzsche and the pragmatists, though on sounder principles in each case.

In an introduction, dealing with "La tâche actuelle de la philosophie," there is a vigorous criticism of intuition as a philosophic method. Defining intuition strictly as the adequate perception of reality, *i. e.*, the perception of a thing as it would perceive itself were it fully self-conscious, Fouillée maintains that there is no available metaphysical intuition, whether of matter or of other minds or of one's own mind, still less of the absolute being. Intuition can be used in metaphysics only in the sense referred to in the seventh letter of Plato, as the taking fire of material amassed by long empirical labor, a rapid imaginative synthesis under the influence of a directive idea. But this process is simply inspired induction; its results are reported for the most part in figures, analogies; it achieves a similitude of reality, not a perception, *i. e.* a relation rather than a term; it obtains no knowledge of the absolute, which must stand at the end of the conceptual labor of philosophy, not at the beginning.

Here we come upon Fouillée's fundamental conviction, the complete intelligibility of the world. This does not mean for him that everything is intellectual in its nature: activity is always more or less blind, sensibility more or less dull, adaptation more or less instinctive. But it means that there is nothing in the world which has not its own sufficient reason, and nothing which harbors inconsistency in its nature. Nothing stands apart from the laws of identity and causality; and the task of philosophy, like that of science, "is to put more and more into evidence the profound rationality of things."

At the same time, Fouillée does not hesitate to draw the categories of knowledge from the will; for the will itself is but a development of the fundamental impulse of life, the impulse to become completely conscious, "la volonté de conscience." To be conscious and at the same time fully self-conscious is joy itself, the essence of value. The categories are "generalized abstracts of ourselves"; the primary category, that of causation, is but the translation of the will (p. 154) —*i. e.*, it is the structure of the will assumed as the structure of the

world. And thought may be defined as the process of mastering the world by assimilating it to the self through the categories. Concepts and categories may thus be described with Nietzsche as means of power. But this does not in the least imply the subjectivity of knowledge, nor its pragmatic character. Knowledge succeeds only because these principles are in fact the laws both of the self and of the world. The mind is a product of the world, and this conformity is as much to be presumed as for example the conformity of the function of locomotion in us with the objective laws of physical movement.

On these principles, the author is prepared to defend determinism against the later apostles of contingence, among whom he numbers Charles Peirce with Lotze and Renouvier. True, our conceptions of mechanical determinism are misleading and inadequate; but only because they ignore the deeper determinants of all happening. Every event is the result of an infinitude of causes, and some of these, the ultimate factors, are intellectual and moral. In our own behavior determination may become less mechanical and more spiritual, and as it does so, its form tends to that of an ideal spontaneity. In this sense, contingence may be taken as a limiting idea, and also as an *idée-force* which incites us to act as if there were no law and no obstacle that could not be set aside,—in the interest not of hazard, but of intelligible living.

And no limit can be set to the perfectibility of the spiritual order; nor can the theories of the finitude of the universe or of the entropic decline of available energy put a term to it. At the worst we have to expect an asymptotic approach to physical equilibrium which is wholly compatible with infinitely continued mental development.

I have touched only upon the more salient positive views expressed in these pages. There is much acute criticism in the chapters dealing with various interpretations of the world held to be insufficient: the interpretations by extension, by "la durée," by movement, by energy, and by certain conceptions of evolution.

WILLIAM ERNEST HOCKING.

The Belief in Immortality and the Worship of the Dead. Volume I. The beliefs among the aborigines of Australia, The Torres Straits Islands, New Guinea, and Melanesia. By J. G. FRAZER. The Gifford Lectures, St. Andrews, 1911–1912. London, 1913, Macmillan and Co., $3.50.—pp. xxi + 495.

The volumes, of which this is the first, promise to be the most exhaustive study yet made of the customs and beliefs of primitive

races concerning death and the belief in the continued existence of the spirit after death.

Dr. Frazer's three introductory lectures defining the method of the inquiry, savage conceptions of death in general, and the myths of the origin of death are particularly interesting. The seventeen lectures which follow describe in detail the beliefs and customs regarding death held by the peoples mentioned in the sub-title. The mass of details here presented is bewildering and little is suggested in the way of interpretation. These details, however, are presented in Dr. Frazer's usual charming style and the reading of the book is not an arduous task.

The author especially disclaims any purpose to judge of the truth or falsity of the belief in immortality. His inquiry is rather an historical one. He starts with the assumption of natural theology that if there is a belief in a deity or deities it has been derived from some phase of empirical experience. This belief he traces in the main to certain phases of subjective experience which have suggested to men of all ages the idea that one may be inspired or possessed by spirits or other agencies higher than oneself. This theory leads first of all to the worship of living men as 'possessed' and finally to the notion of deities. Outer experience also contributes to the development of religious beliefs by the interest of the mind in the discovery of the causes of natural phenomena, the savage explaining them all in terms of voluntary agents like himself.

To the above two types of deistic ideas must be added a third type, that of the spirits of deified dead men. Not merely among savages and barbarous people but also among the civilized, the worship of the human dead has been one of the commonest forms as well as one of the most influential of all religious practices. In fact the belief in the survival of the human spirit after death is world-wide; "we need not wonder therefore that the custom of propitiating ghosts or souls of the departed should be world-wide also."

The fundamental aspect of the deification of spirits of the dead is this assumption of the continued existence of the soul after death. Dr. Frazer's study is a contribution to the investigation of this assumption through the description of its various modes of expression in primitive culture.

Of the various sources of the belief, he places dreams first of all, dreams on the part of the living of those who have died. He, however, recognizes the likelihood of other co-operating causes. The amount of attention attracted by death is sufficient to account for the vast

amount of primitive belief and ceremonial centering about this incident, and practically all people hold some sort of belief in a longer or shorter existence of the spirit after death. Another belief, almost as general among savages, is that death is never natural but almost always due to the maleficent acts of some sorcerer, evil spirit, or ghost. A part of the reverence for the dead is doubtless due to a deep-seated fear of their malevolence.

The belief in the life after death is, then, but the logical outcome of the belief that man is naturally immortal and that all deaths are unnatural. The many ingenious explanations of the savage as to how death entered into the world, recounted in this book, suggest, as the author says, a curious parallel in some of the speculations of modern science, a number of eminent men having expressed the view along with the savage, that death is not a natural necessity.

In the lectures which follow, the association of the beliefs of these different savage races with the other conditions of their life, especially their natural and economic environment, is made fairly definite and, probably, with the information available, it is done as well as possible. As the author does not himself attempt any summary or interpretation of the various beliefs, the reviewer can hardly attempt it. He wishes to suggest, however, that many of the ceremonials associated with the dead suggest as their basis various practical expedients or precautions taken by the primitive man to guard himself from the malevolent power which he had attributed to the deceased. This is but one phase of the belief in a mysterious potency pervading nature, and it may in various ways have been easy for the savage to associate it in his mind with the dead.

It is conceivable that, elaborate and useful as this account of savage beliefs is, it fails to furnish certain facts which may in a measure be essential to the proper interpretation of these beliefs, namely, the facts of social organization and the general system of beliefs and practices of these peoples. No doubt Dr. Frazer has given all of this material that it was feasible to give in such space as he had. However, we should bear in mind that no set of beliefs can be studied adequately when taken thus largely by themselves. The beliefs regarding death are but part of a much larger circle of ideas and social structures, and they must always be interpreted with this social matrix in mind. This is not a criticism upon Dr. Frazer, however, for, as we have said, he does not attempt any interpretations.

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The Philosophy of the Present in Germany. By Oswald Külpe. Translated from the Fifth German Edition by Maud Lyall Patrick and G. T. W. Patrick. New York, The Macmillan Co., 1913.—pp. vii + 256.

Those who have read Külpe's *Outlines of Psychology* and his *Introduction to Philosophy* will be glad to know that another work of his has been translated into English. *The Philosophy of the Present in Germany* is an account of four of the modern tendencies of thought in Germany, those which Külpe regards as most representative of the movements of the present. It is not a "detailed study of aesthetical, logical, ethical, or psychological problems," but rather an attempt to present a "general world-view" and to make clear "the attitude of the several thinkers on the problem of knowledge." The tendencies taken up are those of Positivism, Materialism, Naturalism and Idealism, and the thinkers discussed are treated as types of these tendencies. The general world-view of these thinkers is not merely expounded but it is also criticized, and it is largely in the criticism that the value of the work lies.

Mach and Dühring are taken as types of positivists. The main criticism of Positivism is a good example of the sort of criticism offered. Külpe says Positivism is too limited and too insecure in basing everything on the given in consciousness. "If in the Absolute Philosophy the centre of gravity was found in the activity of pure thought, Positivism shifts the centre of gravity to the reality given in our consciousness. In this limitation and depreciation of thought Positivism betrays its deepest impulse, its most characteristic position. . . . Positivism, therefore, is a standpoint of revision—an inventory, as it were, which precedes new enterprises and loads them in advance with a heavy ballast of critical foresight and caution. In order to do this work thoroughly, it opposes not only the all-too-many answers, but also the all-too-many questions. It is not content with representing the present metaphysical solutions of the world-riddle as untenable, unsafe and superfluous guesses, but it wishes also to suppress the very impulse toward such speculation. . . . But in so doing, Positivism itself falls into a kind of dogmatism, since it starts with certainty instead of establishing it, and fixes in advance the goal of thought at the same time as the method" (pp. 76–7).

For Materialism he takes Haeckel as the type and for Naturalism Nietzsche. Under Idealism he gives us four thinkers as types, Fechner, Lotze, von Hartmann and Wundt.

His remarks on Wundt are especially interesting. For Wundt, he says, "experience and the laws of rational thought are the only

guiding stars, the only foundation, and the only aids to investigation. Experience supplies the facts, the empirical sciences, the provisional results of a systematic examination of these facts, and metaphysics starts from these results in order to carry them further and perfect them from a logical point of view" (pp. 210–11). There are no "fantastic analogies," Wundt's metaphysics has a scientific foundation. He likens him to Leibniz, "for to him as to the earlier philosopher no human knowledge is foreign, and he, like Leibniz, strives after a theory of the world which shall give full weight to the claims of both the formal and the real sciences. Wundt also arrives at a monado-logical system, although, to be sure, he substitutes units of will for units of perception, and has changed a scale of monads quietly resting side by side into an actual community and reciprocal determination of creative beings" (p. 221). But there is a serious difficulty with his idealism. Idealism uses the mind "as the key with which to unlock the world-secret." Wundt believes that the will expresses the being of the mind most exactly, and that the world is therefore a system of "will-units." Külpe feels that the will should not be regarded as more fundamental than any other element in the mind; the other elements cannot be reduced to the will, and they go just as much toward making up the mind as the will does. Therefore there is no reason for selecting the will as the key to the universe.

One might have preferred a different selection of the leading tendencies of thought and of the thinkers representing each tendency. To "avoid all controversy" on this subject Külpe "claims the right of personal opinion" (p. 8). But I think it may be said that given the tendencies and the thinkers and considering the limited space allowed to each thinker the exposition gives us the essentials. The criticism is always serious but clear and thoroughly sound. The translation is so good that one is not aware of reading the work in translation.

As the translators point out in the preface, Külpe has reserved the term 'Idealism' for objective or ontological idealism and excluded it from including epistemological idealism. It certainly makes for clearness to keep this term for one type of idealism, but it is very misleading to class epistemological idealism as a form of positivism. Epistemological idealism may approach positivism and it may be very far from it. Such thinkers as Lange, Cohen and Natorp do find the epistemological problem in experience as does Mach, but their method is about as far removed from that of Mach as can be imagined. On pp. 247–8 Külpe hints at this difference, but he does not carry it out.

HARVARD UNIVERSITY. M. PHILLIPS MASON.

NOTICES OF NEW BOOKS.

Intelligenz und Wille. Von Dr. E. MEUMANN. Zweite umgearbeitete u. vermehrte Auflage. Leipzig, Quelle und Meyer, 1913.—pp. viii, 361.

The second edition of this book shows no very important changes from the first. The two longest additions contain, the one a fuller and more explicit rejection of the doctrine that feelings have primary importance for the will, the other a discussion of the various cases where volition fails to be carried out, and of the relation between general and special volitions. The chief importance of the book, in the second as in the first edition, is as a contribution to individual psychology.

The first section deals with intelligence, defining it as the capacity to think or judge, and discusses the formal conditions of intelligence, the types of intelligence based on characteristic differences in attention type, and the relation of intelligence to observation, memory, and imagination. The relation of imagination to thought is of course a point needing especially careful elucidation. In thought, Meumann holds, the imageable or *anschaulich* elements are only means to an end: in imagination they are ends in themselves. Thought involves a search for relations. Both thought and imagination recombine ideas, but the former produces new relation-complexes, the latter new content-complexes. By thought we form concepts, which cannot be represented as images. Since, however, they must have *feste Anhaltspunkte*, we have need of words, gestures, and other symbols for thought: hence thought is essentially a symbolizing activity, while imagination is not. Both thought and imagination are ruled by *Aufgaben* or directing ideas, but these are of different sorts in the two cases. At this point in the exposition, the introduction in the second edition of a criticism of Ach's views on the nature of thought seems to involve the author in what is at least an obscurity, if it is not a contradiction. On one page he says of the Aufgabe and its accompaniments, "Alles das fehlt bei dem rein erinnerenden Vorstellen," as contrasted with imagination and thought. On the next page, in the new section, he criticises Ach as follows: " Das Aufgabebewusstsein, die 'determinierende Tendenz,' die Selektion der Vorstellungen unter dem Einfluss der Aufgabe u. a. m. sind gar keine dem Denken und Urteilen allein eigentlichen Vorgängen: sie kommen auch bei reinen Gedächtnisakten vor"; in which statement, rather than in the first, he is of course correct.

The second section, on the will, defends the following principal positions. The essential features of a truly voluntary act consist in an inner assent to its motives, and the consciousness that this inner assent is the real cause of the action. The movement idea is not of prime importance to the voluntary act. Of the several arguments which Meumann urges against such a supposition, the following are the most important. First, the movement idea cannot be

concerned in inner volitions; second, children perform voluntary movements before they are capable of reproducing ideas; thirdly, movement ideas are very difficult to get, kinaesthetic complexes not being readily reproducible. The author grants, however, that movement ideas serve for the regulation of new movements, although not for their production. Precisely this function of regulation, we may note, is too important to be so cavalierly treated. It may also be said in criticism of the author's position, that the difficulty of calling into consciousness a kinaesthetic idea whose components can all be identified and localized does not disprove the functioning of kinaesthetic ideas in governing movements, any more than the difficulty of representing concepts under the form of images needs to prevent Meumann from admitting their function in thought.

Ach's theory of the will the author would accept if to the operation of determining tendencies as causes of volition there is added the 'inner consent.' Meumann's decided minimizing of the influence of feelings on the will seems to be connected with his narrow conception of feeling as mere pleasantness-unpleasantness. There are three kinds of will-acts, he says, where feeling certainly plays no part: habitual acts, compulsory acts, and acts proceeding from deliberation and intellectual conviction of the value of an end. Many psychologists, however, would broaden the term feeling to include precisely the various values which may attach to ends, and would urge that in habitual and compulsory actions the feeling element is still present, although its source is no longer the idea of the end.

The carrying out of volition into action Meumann believes to rest upon a purely associative process. The volition produces the act because motive and act have been previously associated. This association, of which a motor process is the second term, is in no way different from an association in the ordinary sense: "we have no reason to assume that the association of sensory and motor innervation processes is based on other conditions than those of sensory and sensory or of motor and motor processes." The most important cause of failure to carry out volition into action is thus any imperfection in the associative connection between the two, due for instance to lack of practice or lack of definiteness in the idea of the end.

The chapter on "Individual Forms of Will and Character" is one of the most valuable in the book. Of pure will-forms, the author contrasts the following pairs: the energetic and the non-energetic; the enduring and the fatigable; the systematic (governed by general purposes) and the atomistic; the will having clearly realized ends and the more impulsive or instinctive will; the static (needing only one resolution) and the dynamic (needing repeated resolutions); the hesitating and the promptly decisive; the type with a strong habit-forming tendency and that with less inclination to remain in habitual grooves. Under the head of 'feeling forms of will,' a new classification of temperaments is given, on the basis of the quality, intensity, and duration of feelings, the speed and facility of the affective response, and the active or passive character of the pleasantness or unpleasantness involved. Finally, the

'intelligence forms of will' are enumerated as the type guided by imagination, that guided by thought; the productive, unproductive, and reproductive types of will, the independent and dependent wills, the analytic and synthetic wills.

In the last chapter, on the relation between intelligence and will, the primacy of the former is maintained. The second edition has added a criticism of Wundt for inconsistently having abandoned the doctrine of a unique will-element in his psychology, while continuing to uphold a voluntaristic metaphysics. The question as to the proper relation of intellectual and volitional elements in determining one's metaphysical attitude is answered by a strong, and to the reviewer welcome, plea against irrationalism.

It seems ungrateful to wish that a book which in its sane and practical discussions of the individual aspects of intelligence and will performs so useful a task, based this achievement on a yet deeper theoretical foundation. But one wants further light upon the nature of that 'inner assent' which is the essential feature of will; one wants to know more about the psychological character and physiological basis of those 'relations' and 'concepts' which are the peculiar material of thought processes. On the last page of the book we are told that the inner assent may be the revelation of 'an elementary active reaction of the self.' If it is to be explained by such categories, then they should be used throughout in place of psychophysical explanations. But we find that elsewhere in the book the relation of motive to act is referred to the working of the laws of association, that is, to psychophysical causes. The reviewer greatly wishes that Meumann had at least indicated the direction in which one may look for a purely psychophysical explanation of the essential features of will.

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Natural Law in Science and Philosophy. By ÉMILE BOUTROUX. Authorized Translation by FRED ROTHWELL. New York, The Macmillan Company, 1914.—pp. 218.

This is a series of lectures delivered at the Sorbonne in 1892–3, to the English translation of which Professor Boutroux has added a brief preface. The logical, mathematical, mechanical, physical, chemical, biological, psychological, and sociological laws are critically examined in successive chapters, and shown to be irreducible to common principles at present, and to deviate further and further from strict logical necessity. Determinism as a philosophical principle seems to be identified in Professor Boutroux's mind with logical necessity of a type that cannot be attained in formal logic itself, since even this contains elements that cannot be reduced to pure thought. With such a conception of determinism assured, it is easy for Professor Boutroux to show that in the present development of the sciences its postulation is a sheer assumption. He concludes, "that which we call the laws of nature is the sum total of the methods we have discovered for adapting things to the mind, and subjecting them to be moulded by the will" (p. 217). "The mechanical laws of nature, revealed by modern science, form in reality the chain that binds the without to the within. Instead of being a necessity, they set us free" . . . (p. 218).

Much as one may agree with Professor Boutroux's conclusions, it is to be feared that they are reached too easily to convince any of our naturalistic and mechanistic philosophers at the present time. It needs to be shown that no other form of determinism except that of logical necessity could be deduced from natural laws. This translation will furnish an excellent introductory treatise to the problems of mechanism and teleology; there is little in it, however, that has not been stated in a more thorough, though perhaps a more technical way, in recent works in English upon the subject. The translation seems on the whole to be accurate, and carefully done; possibly the influence of French rather than English diction is apparent in a few passages.

WILLIAM K. WRIGHT.

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Le rhythme du progrès. Étude sociologique. Par LOUIS WEBER. Paris, 1913—in 8°, de la Bibliothèque de philosophie contemporaine, Alcan.—pp. xiv, 311.

This work, following closely upon Lévy Bruhl's *Les Fonctions mentales dans les sociétés inférieures* and Durkheim's *Les formes élémentaires de la vie religieuse*, shows the productive activity of the new French sociological school, and, like the works mentioned, sets forth doctrines in the fields of comparative morals, the psychology of religion, and logic, which deserve serious consideration.

In the place of Comte's law of the three stages, which is shown to be inaccurate in its interpretation of historical progress, M. Weber proposes a rhythmic law of progress in two stages,—the first a stage of technical activity, and the second one of reflection and speculation. Evidence that civilization passes alternately through these two stages is offered from animal psychology, anthropology, and the history of the sciences. Perception, really a phase of action, appears earlier in evolution than reflective thought. Humble work, with simple tools like the coup de poing and the arrow-head, preceded the rise of systems of ideas, such as those of religion and magic. Language was the first form of theoretical technique to appear, and words and gestures may be regarded as tools invented for practical control, which at first were believed to be quasi-material objects with physical efficiency. The efficiency of words suggested a new sort of causality, and so gave rise to religion and magic. From the latter developed social institutions in general. Technical activities have their basis in individual psychology, and develop in immediate contact with the physical environment. Social, religious, magical, and other speculative ideas, on the other hand, have no external mode of verification, and owe their objectivity to collective representations and other phases of group life. M. Weber follows Durkheim and Mauss in attributing generalized concepts and categories of all sorts to social life.

That an earlier stage of technical invention has been superseded by a later era of religio-magical speculation is evident in the case of the native races of Australia and Oceanica. The evidence points to such a transition in pre-

historic Europe at about the end of the palaeolithic or beginning of the neolithic period. Later another such transition from practical to speculative activity is evidenced by Egyptian, Phoenician and Greek traditions regarding the discoveries of the technical arts possessed by them in the ancient period. The history of the sciences—mathematics, astronomy, physics, chemistry—illustrates the principle that theoretical development follows and depends upon practical technique, and that without the latter ideas become arrested in a sterile verbalism. So the rhythm of progress is an alternation of technical and theoretical eras, the former both chronologically and logically preceding the latter.

M. Weber's general argument seems convincing. His emphasis upon the precedence of action to ideation, and the empirical evidence which he furnishes ought to make him a welcome ally to our instrumentalists. In criticism it might be said that he makes too sharp a dualism between theory and practice and does not allow enough for their mutual interdependence. He does not sufficiently recognize that scientific categories, like cause and effect, genus and species, and the others, owe much to collective representations and social life in general—a fact which Professor Durkheim has shown. But these are merely faults in emphasis for the most part. The book contains numerous valuable points, but is hardly equal in suggestiveness and originality to the works of Durkheim and Lévy-Bruhl to which reference has been made.

WILLIAM K. WRIGHT.

CORNELL UNIVERSITY.

The Unconscious. By MORTON PRINCE. New York, The Macmillan Co., 1914,—pp. xii + 549.

A subject, at which the author has many times tried his hand and on which, especially among pathologists, his authority is readily conceded and respected, comes again to our notice in a neat volume of some size and readability. It is in no wise a systematic treatise and can be read profitably only as a sequence of lectures on subjects which stand related in the field of the author's interest. After a perusal of the subject-matter, however, the impression is left that the title of the work might more appropriately have been *The Subconscious*, much as the word has been abused and maligned, because the *unconscious* gets but a small share of consideration and is much the less comprehensive topic under discussion. Since, perhaps, the author finds in the *unconscious* one of the distinguishing characteristics of his theory, he may have discovered a sanction for its prominence in the title.

After a preface whose main emphasis lies in the insistence on strictly inductive and experimental approaches to scientific phenomena, and the justification of theoretical assumptions based upon these approaches,we are led to a consideration of memory, a subject which is taken up from various points of view in the first five sections. Memory is a process involving both conscious and subconscious factors and occasionally being itself wholly subconscious in nature, but always representing the registrational and conservational tendency in the

life of the organism to the end that nothing that is ever experienced is ever entirely forgotten or lost. Its bearing on the maintenance of personality, on the formation of judgments, beliefs, dreams, and hypnotic and psychopathological phenomena is indicated. A number of illustrations of the recall of past and apparently forgotten experiences in normal life under the influence of automatic writing, abstraction, hallucination, and dreams are cited. Examples of the conservation of experiences which were not focal in attention at the time, of objects not consciously experienced, of forgotten traumatic and somnambulistic events, are also added. The facts of dissociation of personal experiences, of post-hypnotic suggestion, and other instances of conservation are gathered from 'artificial' or 'abnormal states.' The next section discusses in detail the residual processes which underlie automatic writing, hallucinations, dreams, and bodily disturbances, differentiates the factor of recall from the principle of simple retention, and prepares the way for an exposition of hypothetical *neurograms* which are the physiological correlates of psychical phenomena. After various psychical, physical, and physiological theories of conservation are considered, the neurogram theory is proposed as the one which is the most plausible explanation of the registration, conservation, and reproduction of experiences. Neurograms are, then, postulated 'brain-records,' 'modifications of the dispositions of the neurons that remain as vestiges of thought' (p. 133), 'unconscious physiological arrangements' (p. 137). The sixth lecture begins the *Leitmotiv* of the book: the subconscious process, which is defined 'as one of which the personality is unaware, which, therefore, is outside the personal consciousness, and which is a factor in the determination of conscious and bodily phenomena, or produces effects analogous to those which might be directly or indirectly induced by consciousness' (p. 156). There is evidence that these subconscious processes are often "of an intelligent, purposeful, volitional character" (p. 191), as is illustrated in automatically written verse. Frequently a problem which vexed consciousness gets itself carried out and solved in the subconscious manifestation of hallucinations and dreams. At this point counter arguments are offered against the Freudian analyses of dreams, emphasizing the importance of selecting the proper 'causal factors', with the resulting conclusion that "a dream may be the symbolical expression of almost any thought to which strong emotional tones with their impulsive forces have been linked . . ." (p. 221). The author recurs to this thesis against the school in another context (p. 513). The eighth chapter bears the title of the book, *the unconscious*, called "the storehouse of neurographic dispositions or residua" (p. 229), and later interpreted as 'memories' (p. 238). Here the author begins a defense of the term 'intelligence' as used in connection with unconscious processes as well as with unconscious motives. Part of the argument is crowded into a long footnote (p. 240, *v.* also p. 245). After a brief historical review of the use and meaning of the term 'subconscious,' we are asked to consider a classification (p. 253) which includes in the *coconscious*, marginally unclear processes, split-off constellations or ideas, and in the *unconscious*, both dormant and actively

functioning neurograms or neural dispositions and processes. The chapter on unconscious complexes considers in detail, obsessions, emotional memories, instinctive integrations, ideas of interest, artificial organizations, such as post-hypnotic and therapeutic suggestions, and moods. The tenth section makes the unconscious the seat of perceptions and of meanings for ideas, with the reservation that the difference between a perception and a meaning is the higher degree of complexity of the latter. Other phases of the problem, degrees of attention in consciousness, description of four types of obsessions and phobias in the light of subconscious and neural dispositions, occupy the next three lectures. The fourteenth and fifteenth lectures discuss the physiological effects and psychological processes of emotion, with special emphasis on emotional conflicts occurring in the subconscious. The next lecture brings together the results of this conflict under the headings of contraction and dissociation of consciousness and amnesia. The last section of the book coördinates the facts and theories of the previous lectures in summary and conclusion.

It is not easy to criticize a subject and presentation to which the author has evidently devoted much time and thought. Four years ago, it will be remembered, he and five other psychologists and psychopathologists contributed to a symposium on the general subject of the subconscious. The present work is naturally much more comprehensive in scope and on a higher scientific level than the author's contribution to this symposium, but, in the reviewer's mind, Münsterberg's chief criticisms passed at the time on the theory of the subconscious, and the late Professor Pierce's "Appeal from the Prevailing Doctrine of a Detached Subconsciousness," published four years earlier (Garman Commemorative Volume, 1906) still leave little to be added in the way of adverse comment. The first reaction which occurs expresses itself in the opinion that the theory is unnecessary. What does the theory really mean? Surely, little else save that there are unconscious activities and tendencies which may show special organization. Will not the physiologist admit that the neurological functions are organized? Why not relegate these phenomena to his field of study, to the physiological substrate of the organism. To say that these activities show a submerged intelligence is a distortion of the concept of intelligence (*v.* p. 245). Nowhere in the discussion is there any evidence that there is any anticipation of result of action involved. The action specified looks to be as intelligent as the symmetrical formations of crystalline substances. A second criticism takes the form of a remonstrance against the ambiguous or wide usage of technical terms. The transfer of such concepts as idea, memory, perception, from the realm of conscious experience to the sphere of physiological, neurological, and subconscious activities utterly destroys their meaning. If these words are to be rightly interpreted their use must be restricted to the proper contexts, else a washout left by a flood, or the puncture left by the passage of an electric current through a dielectric may become a 'memory.' We have noticed that 'memory' is made physiological as well as psychological (p. 4). This means that a new term will have to be invented to describe the conscious experience of memory imagery or an

ambiguity must be tolerated. The whole issue of the conscious and physiological aspects of the organism is left unsettled by the statement that the author holds to a 'psychic monism' (*v.* pp. 148 and pp. 246*f.*). When in the same paragraph, and not many sentences apart, neurograms are described at once as concepts and as records of our mental lives, when the subconscious becomes '*the* problem of psychology' (p. viii), one wonders what the status of the 'mental life' can really be. Further confusions of this order occur when the term 'unconscious' is made to include both the unclearly conscious and the physiological or unconscious (pp. 250–2), and when a distinction is forced between the *psychological*, which "pertains to the empirical data of consciousness," and the *psychical*, which "pertains to the inner or ultimate nature of these data" (p. 244).

In short, although the author has made brave attempts to show by argument and by analogy—which appear to be the 'inductive method' promised in the preface—the necessary existence of the subconscious and the unconscious, nevertheless, it seems that again refuge has been sought in a name: certainly the subconscious, as such, has not been observed or experimentally controlled. In the preface the author admits that it is a theory, but so are the subconscious ideas, neurograms, memories, perceptions; the only facts are the pathological cases which are so fully and frequently described and the experiences from normal life which are cited. If the book proposed merely the substitution of a set of terms—they had better not been borrowed terms—for a variety of physiological activities and theoretical conditions, this criticism would not apply, but the attitude adopted after the preface seems to be one of established scientific fact, not one of terminological substitution. What proof there is for the existence of subconscious ideas, perceptions, memories, and the like, is not very clear, since obviously the direct experience of the person does not reveal them. If they are theoretical, then they seem unnecessary and empty of meaning, because clearly the analogy with conscious experiences is unreal, since they are not conscious and therefore not experiences.

CHRISTIAN A. RUCKMICH.

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Essays. By RAOUL RICHTER. Leipzig, Felix Meiner, 1913.—pp. xiii, 416.

This volume is edited by the widow of the Jena professor, and consists of a rather miscellaneous collection of addresses and articles, from a student essay on the Faust problem to his last public address, on academic ideals. Single essays appear on Pascal, Spinoza, Kant and Schiller, Wagner, Woltman, Dehmel, and on the relation of philosophy and religion; but a third of the volume is occupied by five articles on Nietzsche, and this more connected part of the book is here selected for brief comment.

Richter is a warm admirer of Nietzsche, though by no means a devotee, and gives a successful popular presentation of his chief doctrines, in a clear and pleasing style. His criticisms do not seem to go deep enough; but the intent of the studies is chiefly appreciative.

Richter considers that Nietzsche's importance lies in having compelled a considerable reformation in our understanding of what is essential to religion, in having forced new attention to the doctrine that the moral personality must be autonomous, in having broadened our humanitarian ideals, and in having been himself the embodiment of a new and future type of profoundly religious man. If the essence of religion is the emotional acceptation of what one considers the deepest nature of the real, then Nietzsche may stand as an example of religious zeal in his cult of life and force.

In his teaching concerning the superman Nietzsche's concept underwent considerable change, and Richter argues, with some detail of quotation, that in its biological and historical aspects the later form of it is in clear contradiction to the earlier. The earliest doctrine is based on a complete acceptance of Darwinism, and holds that, just as there has been continual progress in the evolutionary series leading up to man, so there must be progress from present man to a still higher future race. In the next periods Nietzsche introduces the idea of the eternal cycle, shifts away from the the belief that present man is really a biological culmination, and begins to drop the idea that there can be produced a whole race of beings who shall be higher than the highest who have already lived. The final doctrine is the denial of progress by natural selection, the complete abandonment of the hope of a new biological species in a far distant future, the belief that the superhuman type has already often appeared, and the belief that our aim should be simply such intelligent, selective breeding among the present mixed and degenerate races of men as to produce dominating individuals more frequently.

Discussing Nietzsche's views on women, marriage, and children, Richter gives some account of what is known of Nietzsche's own relations with women, noting his antipathy to any libertine practise, and his apparently abnormal lack of sex-instinct intensity. Admitting the exaggeration and the self-contradictions in his comments on women and the right relations between the sexes, Richter urges that Nietzsche's forward-looking ideals, and his war on mere sentimentalism in social problems, have in fact strongly aided the advance of a broad humanity.

C. H. TOLL.

AMHERST COLLEGE.

Das Realitätsproblem. Von MAX FRISCHEISEN-KÖHLER. Berlin, Reuther & Reichard, 1912.—pp. 98.

This work is a compact restatement of the main position taken in the author's earlier work, *Wissenschaft und Wirklichkeit* (Leipzig, 1912). While many details of the earlier work are here omitted, the author has profited by criticism and discussion; the argument is presented with greater clearness, and the references to differing positions are illuminating.

The author rejects logical idealism (Lotze) and psychological idealism (Berkeley, Mill) as unable to give any meaning to 'real existence.' The former throws existence as a merely logical predicate into a system of thought

relations, a system that cannot be characterized as existent in any way that distinguishes it from any other possible system. The latter, while it grounds reality in concrete sensations, leaves these in the sphere of subjective, individual experience, and can assign to the objects and laws of nature a reality which again is only logical.

But sensations and their logical elaboration do not exhaust experience. There are elements of value which are not products of thought activity or mere sensational content, yet which belong to primitive, immediate experience (*Erlebnis*). Some of these (Shaftesbury, Bergson, Dilthey, Rickert) are examined, and found not to afford an adequate basis for judgments of reality. These the author finds to be rooted in an original sense of activity, which carries with it the recognition of real things as objects, hindrances or instruments of our actions. This reality is not an inference of scientific thought, but a presupposition of all scientific activity. The presentation of this position is extremely acute and significant. Only two or three phases can be mentioned here.

Theory forms but one side of our scientific activity. Science springs out of our practical needs, is tested by its applications, is the means by which we master and re-create our world, and is bound from first to last to our active life. It brings our activities into a connected system (*sie ist ein Wirkungszusammenhang*). The very objects which science thus systematizes are primarily objects of our activity.

The most primitive sensations contain this factor; it belongs to their original character that they are significant for action, and limit it. We are not passive spectators of a panorama of sensations, but are in constant reciprocal commerce with them. In this original sense of action lies the experience (*Erleben*) of reality, a germ which is indefinitely differentiated and corrected in the development of science, but which is presupposed and not produced by science. So when science transforms our world into a system of mathematically related non-qualitative objects in space, this represents but one aspect of a process that must rest at last upon direct experience of action.

The distinction between living and non-living objects is a differentiation of this original sense of reality, which contains both as aspects of one experience. As in one direction there is a constant tendency to mechanize the whole physical world, in the other direction the sense of living reality is centered at the single point of persons. The mental and social sciences accordingly have precisely as good standing (though not yet an equally exact formulation) as the physical.

From this 'empirical' treatment the author excludes the principles of 'pure' mathematical and logical science. Were it not for this, nearly the whole of his position could be taken over into an instrumental theory of knowledge; and instrumental logic would profit by the consideration of some of his points.

J. Forsyth Crawford.

Beloit College.

Pessimisme et individualisme. Par G. PALANTE. Paris, Félix Alcan, 1914. —pp. vi, 166.

The object of this little book is to trace a parallel between pessimism and individualism, to show that both arise from a sense of the insupportable pressure, disharmony, tyranny, hypocrisy, and futility of the social medium. With this aim in view, the writer subjects to a brief, but penetrating, analysis the several varieties of pessimism which he recognizes. Romantic pessimism (Obermann, René, Byron, Leopardi, Heine, Vigny, Schopenhauer) involves an anti-social despondence, radically individualistic. Historic pessimism, nostalgically retrospective, as in de Gobineau and Nietzsche, remains anti-social so long as it remains pessimistic, so long as it compares the disgusting present with the glorious past, Persian or Hellenic. It grows less individualistic as it grows more optimistic, in anticipating the future epoch of the superman. Misanthropic or realistic pessimism, born of a cynical acquaintance with human fraud and imbecility (Schopenhauer, Stirner, Swift, Voltaire, Stendhal, Mérimée, Taine, etc.) presupposes or engenders contemplative isolation: scorn for men involves separation from men. Irrationalism (Goethe, Schopenhauer, Materlinck, Bergson, Stirner, von Hartmann, Guyau, Rabelais, le Dantec, etc.) does not necessarily lead to individualism, nor even to pessimism. It is not always sufficiently emotional to incite an anti-social revolt. But, if it does not conduce to positive individualism, it does result in a negative attitude towards social ends: irrationalistic nihilism is likely to express itself in a spectacular, 'dilettanti' individualism, sneering at the stupid, illogical world. Scientific pessimism, as the author labels the dissatisfaction resulting from the realization of the inevitable limits of scientific procedure (Jean Finot, Paul Bourget) cannot with certainty be said to have individualistic implications. Finally theological pessimism (Anatole France's *Les opinions de M. Jérome Coignard*, Brunetière) is a recognition of the contrarieties of human nature, and depends to a certain degree on irrationalistic pessimism, leading in some cases to a similar social dilettantism.

Of all the varieties of pessimism analyzed by the author, the romantic seems most certainly to imply individualism. The more intellectualistic varieties are less certainly individualistic, but, M. Palante reminds us, they are also less genuinely pessimistic. The only true pessimism is the pessimism of sentiment, and that is why it is naturally accompanied by individualism.

RADOSLAV A. TSANOFF.

CLARK UNIVERSITY.

Esprits logiques et esprits faux. Par FR. PAULHAN. Second Edition. Paris, Félix Alcan, 1914.—pp. 388.

The present edition of this book is substantially a reprint of the first edition, which appeared in 1896. The author in his introductory note comments on this fact, saying, that if he were to re-write the book he would very probably write it otherwise, but that on the whole there would be no essential changes in the underlying thoughts. To the reviewer it seems strange that this lapse

of eighteen years, just because of its richness in individual psychology, should not have changed the author's treatment of his subject. The modern psychology of individual differences is certainly not old, but its youth has been vigorous and of sufficient consequence to command the attention of any writer, even although he should only approach the border of his subject. This latter is the case with the book under review. It cannot be classed as individual psychology, although it bears that guise. Yet there is no reference to Binet; Stern and the Germans are not mentioned in any way, and about the only two English references are to Galton's *Inquiry into the Human Faculty*, and to Abercrombie's *Concerning the Intellectual Powers*. The book shows no influence of the objective methods of modern psychology, and no strictly systematic observations seem to have been employed in arriving at the various types of intelligence set up by the author. These latter are in fact deduced from a priori standards—possible ideals of perfection with appropriate gradations downward.

It is not psychology but rather characterology, and if we accept the book as such it certainly makes delightful reading, because of its literary style and literary method. Minds, according to the author, differ as to the matter or the quality of their images and ideas (whether auditory, visual, etc.), and also as to the form of their thoughts. It is this latter aspect of mind that is dealt with, because it is as indispensable as the former and possesses perhaps a greater interest. It is contended that it is of more importance to know whether the intellect is true or false, fine or gross, credulous or reflective, and so on, than to know whether it uses auditory, motor or visual images.

The principle of classification which the author lays down is the degree of logic or the quantity of systematization given to ideas. This leads to the main division of intellectual types into logical and illogical minds.

Previous to this, however, there is a section devoted to the relation between the intelligence and the feelings, as viewed from the point of view as to what types of individuals may be found in this connection. Here we discover on the one hand those whose intelligence is entirely at the beck and call of desire, of feeling, of passion; and on the other hand those in whom intellect is supreme, where in fact there is nothing but a brain served by the bodily organs, as with Spinoza and Descartes. Between these two extremes we have all possible transition stages, and in the evolution of intelligence we can trace the one type going over into the other. We must begin with desires and feelings, for ideas are at first intimately connected with our desires. All ideas owe their origin to an imperfection, to a defective adaptation. As long as the affective act fulfils adequately the needs of the body, the idea does not become detached or independent. Changes and shocks are necessary to provoke new ideas and new systems of ideas, and hence the origin of art, religion and science. To the reviewer it seems interesting to compare this with Freud's theory of the sublimation of the sexual instinct.

In this way we can trace the evolution from the lowest type up to the highest, and then from the highest we are plunged back again into the lowest,

for ideas go down again into society and become new desires, and thus the circle is begun anew.

Disregarding now the feelings and sentiments, and paying attention solely to the logical aspect of mind (and logic is held to be the general form of systematic association), we can distinguish also a series of types. Here we can range from the imbecile to the genius, from the great systematizers such as Comte to the 'well-informed' people, and then a little lower to the people of 'bon sens,' and ultimately down to the imbecile, who is not yet entirely devoid of all logic. But then again there are sub-types and extra types, such as the specialists, where one part of the mind may be fenced off and given over to the dominion of a merciless logic, whereas the rest of the mind is not subject to this sway. The same individual may, in fact, belong to many different types according to the standpoint from which we view him. There are the extremists, where logic may exist to a high degree but where it is used only to twist everything so that it shall conform to their point of view. The different kinds of association in accordance with the old division into contrast, contiguity and similarity, are also made use of in order to deduce therefrom another set of different mental types.

The illogical minds are divided into three types: (1) the fallacious reasoners; (2) those possessing a multiplicity of systems split off from each other; (3) the frivolous and puerile. In this connection reference is made to dreams and the kind of intelligence found in them. Delboeuf alone is referred to. The influence of Freud has not made itself felt in the author's treatment of this part of the subject. Later on, in the part dealing with the mental processes of the insane, the author sheds little light upon the subject, treating them entirely negatively as merely showing a lack of logic. Pathological states are referred to briefly, but no real study is attempted.

Scattered throughout the book are numerous examples taken from literature and philosophy, which are used to illustrate the various types, and even although one may not always agree with the author, yet these illustrations certainly add charm and interest to the work.

Rudolf Pintner.

Ohio State University.

Gegenstandstheoretische Grundlagen der Logik und Logistik. By Ernst Mally. Leipzig, 1912.—pp. 87.

The author of this study is known for his contribution to the co-operative volume *Untersuchungen zur Gegenstandstheorie und Psychologie* edited by Meinong. The aim of the study is to develop certain fundamental ideas of logic by means of Meinong's doctrine of objectives. By an objective is understood the unitary object of an act of judgment. There is a symbolic treatment of logical relations, of which inclusion, in the two forms of subsumption as between class and class or class and thing, and implication, as between objective and objective or objective and case, is taken to be fundamental. The logic of classes is based on the logic of objectives. The advantage of the idea of the

objective becomes apparent especially in treating questions of possibility and probability and of induction. What is possible or probable is always a 'case' of an objective. A case is an objective as fulfilled (or actualized) by and through a particular thing. A thing 'fulfils' all the objectives of a complete objective-complex. Objectives are either determinate or indeterminate; the latter may be fulfilled in a number of cases. The indeterminate objective would appear equivalent to Russell's propositional function. The theory of the concept is very ingeniously treated by means of the ideas of objective, case, thing, and fulfilment.

DONALD W. FISHER.

BRYN MAWR COLLEGE.

The following books also have been received:

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Interpretations and Forecasts. A Study of Survivals and Tendencies in Contemporary Society. By VICTOR BRANFORD. New York and London, Mitchell Kennerley, 1914.—pp. 411. $2.50 net.

Second Characters or the Language of Forms. By ANTHONY, EARL OF SHAFTESBURY. Edited by BENJAMIN RAND. Cambridge, At the University Press, 1914.—pp. xxviii, 182.

The Instinct of Workmanship. By THORSTEIN VEBLEN. New York, The Macmillan Co., 1914.—pp. xix, 355. $1.50.

From Locke to Montesorri. By WILLIAM BOYD. New York, Henry Holt and Co., 1914.—pp. 271.

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Die Methode der Erkenntniss bei Descartes und Leibniz. Zweite Hälfte, Leibniz' Methode der formalen Begründung Erkenntnislehre und Monadologie. Von HEINZ HEIMSOETH. Giessen, Alfred Töpelmann, 1914.—pp. 146. M. 4.50.

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Diderots Weltanschauung. KARL V. RORETZ. Wien, Gerold & Co., 1914.—pp. 31.

Le Dieu de Spinoza. Par GABRIEL HUAN. Paris, Alcan, 1914.—pp. 338.

Annales de L'Institut Supérieur de Philosophie. Université de Louvain. Tome III. Louvain, Institut Supérieur de Philosophie; Paris, Alcan, 1914.—pp. 628.

Le Relativisme Philosophique chez Georg Simmel. Par A. MAMELET. Paris, Alcan, 1914.—pp. ix, 214. Fr. 3.75.

Maine de Biran, Critique et Disciple de Pascal. Par A. DE LA VALETTE MONBRUN. Paris, Alcan, 1914.—pp. v, 322. Fr. 8.

Le Sentiment de la Nature et son Expression artistique. Par A. DAUZAT. Paris, Alcan, 1914.—pp. 279. Fr. 5.

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Le Hasard. Par ÉMILE BOREL. Paris, Alcan, 1914.—pp. iii, 311. Fr. 3.50.

L'Image et les Réflexes Conditionnels dans les Travaux de Pavlov. Par MARCELLE DONTCHEF-DEZEUZE. Paris, Alcan, 1914.—pp. xvi, 176. Fr. 2.50.

Moral Religieuse et Morale Laïque. Par R. ALLIER, G. BELOT, G. CANTECOR, EUG. EHRHARDT, W. MONOD, TH. RUYSSEN, CH. WAGNER. Paris, Alcan, 1914.—pp. iv, 271. Fr. 6.

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La Religione nella Vita dello Spirito. E. P. LAMANNA. Firenze, La "Cultura Filosofica", 1914.—pp. 496.

La Morale della Simpatia. Ludovico Limentani. Genova, A. F. FORMÍGGINI, 1914.—pp. xvi, 260.

Il Vecchio e Il Nuovo Problema della Morale. E. JUVALTA. BOLOGNA, Nicola Zanichelli.—pp. x, 135.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; 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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Riviste di Filosofia e Scienze Affini; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftiche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

Zur Entwicklung des Rationalismus von Descartes bis Kant. H. PICHLER. Kantstudien, XVIII, 4, pp. 383–418.

Rationalism has been treated inadequately by historians of philosophy. This is very evident in the common misunderstanding of Kant's relation to rationalism. From Descartes to Kant there was an *élan* of development, which Kant, far from checking, helped upon its way. Descartes contributed to rationalism the criterion of clearness and distinctness of ideas and the method of deduction. His doctrine of rational knowledge was: *nulla scientia nisi per intuitum vel deductionem.* All evidence rests on intuition. The standard of evidence is expressed in the *cogito ergo sum*—an error in reasoning which was both fruitful and disastrous in the Cartesian rationalism. Descartes seemed to prefer to receive the validity of mathematical knowledge from the hands of his fallaciously obtained God rather than to get it at first hand. Spinoza's most essential contribution to the rationalistic philosophy was his deepening of the conception of reason, which became for him a metaphysical principle: *ratio sive causa.* From this it follows that everything is strictly determined. The nature of a thing is determined by its concept or definition. An adequate definition is not only a *causa cognoscendi* but a *causa essendi.* All things follow from the concept of the totality of things, or *Natura naturans.* The Spinozistic concept of God is therefore the law which determines every content; for the *Natura naturans* is no mere logical first cause, but the *Weltwesen* comprehended in the *Weltbegriff.* The concept of adequate knowledge is the final synthesis of Spinozistic rationalism. From his conception of immanent truth there followed much of the Leibnitzian philosophy. The fundamental proposition for Leibniz is that of sufficient reason, which left on his hands the problem: What conditions must be fulfilled if the principle of sufficient reason is to be valid? He found the solution in

the concept of genera, the individuals of which must present a *universitas ordinata*. As 'nature makes no leaps', there exists between the individuals of one genus, and also between genera, a regularity of differentiation which assures to each individual a place in the system. This is the law of continuity. How far this concept of rational determinism carried Leibniz is shown by the relation of the principle of reason to the principle of contradiction. For Leibniz, every impossibility contained at least an inner contradiction, and that which was not contradictory was at least possible. Reason existed for Leibniz only where logical necessity existed. Everything that is, therefore, exists by logical necessity, or has a reason. Since the principle of contradiction defines what reason is, these two principles are seen to be inseparable. As Couturat rightly points out, the principle of sufficient reason says nothing except that every true proposition is analytical. Though this means that knowledge from analytic judgments is frequently only problematical, yet we may have analytical principles which are categorical, if we assume that logic contains a creative principle; or, in other words, that logic does not *have* reason, but *is* reason. Leibniz did not regard the principle of reason as a problem in itself, as did Kant. Leibniz ontologized concepts, while Kant, on the other hand, regarded the 'Idea' as anti-metaphysical. Kant, however, did not solve the problem he set for himself, but merely stated a new problem. The results of Meinong and von Husserl have a bearing upon that problem. In conclusion, it must be understood that the essence of rationalism does not consist in the presupposition of reason as an especial source of knowledge; it consists rather in the goal which is established for knowledge.

ALMA R. THORNE.

Les nouveaux courants d'idées dans la sociologie contemporaine. E. DE ROBERTY. Rev. Ph., XXXIX, 1, pp. 1–31.

One of the great movements in the history of thought has been the progressive 'exodus' of the sciences from the domain of religious and metaphysical conceptions. An epoch in this movement was marked by the founding of the science of sociology by A. Comte, but this posited the problem, at least equally important, of transforming philosophy. About 1880, a new school of thinkers, modestly calling themselves the Neo-Positivists, began the reduction of the remaining branches of philosophy—ethics, aesthetics, psychology, and especially logic and the theory of knowledge—to the position of social sciences. The present article treats of the resulting reconstruction of sociology. In France, Durkheim was among the first great sociologists to embrace the neo-positivist doctrine of social ideality and organic solidarity against the mechanical solidarity of the economic school. He seems to go to the opposite extreme, however, of regarding social organization and the forms of collective activity as causal products of the arrangement of mental concepts, whereas neo-positivism regards both as coördinate effects of a common cause, the collective experience or interaction of consciousnesses. In regard to the bio-social theory of mind, the great touchstone of neo-positivism, he wavered at

first, but later pronounced definitely for the view of psychology as a concrete science dependent on sociology. He and his school have also embraced the neo-positivistic doctrine of the sociological basis of philosophy. Man is the product of society rather than society of man (as thought Spencer and Tarde), and sociology, even more than psychology, is the supreme 'science of man.' They likewise adopt the ethics of the school, which finds the real problem of the moralist in the construction of a science of customs, as well as others of its characteristic tenets, the 'law of the four factors', the 'law of retardation', etc. Beside the name of Durkheim should be placed that of Lévy-Bruhl. This writer thinks the traditional problem of social psychology must be inverted. The real question is not as to the origin of the social consciousness and its explanation in terms of given individual consciousnesses, but rather is it the consciousness of individuality which must be accounted for on social grounds. Besides these pre-eminent names of French sociology, numerous other able thinkers—Izoulet, Gaston Richard, Lalande, Duprat, etc., share similar views. In America, Baldwin's "Thoughts and Things," especially the second part, "Experimental Logic or Genetic Theory of Thought," is a very important attempt to detach the theory of knowledge from philosophy and transform it into a sociologic discipline. Baldwin finds social community to be the basis of objectivity, and thinks the real badge of certitude is the mark of social manufacture: 'made in society'! So, too, in Germany. The neo-positivist view is virtually identical with the energy-sociology of Ostwald, while Simmel's "Soziologie, Untersuchungen über die Formen der Vergesellschaftung" (1908) shows the same influence, though developed much less clearly and consistently. In certain pages, the latter author approaches closely to the neo-positivistic view of social phenomena; but he appears to be quite confused as to the relations of the three groups of sciences, the biological, sociological and psychological. In Italy, too, where the ground was better prepared than in Germany, England or Russia, the neo-positivistic conception of sociological problems has received a sympathetic welcome. Especially notable are the doctrines of the philosophic and sociological school of Robert Ardigo, whose theory of justice shows this influence very decidedly.

F. H. KNIGHT.

Idealism and the Reality of Time. BERNARD BOSANQUET. Mind, 89, pp. 91–95.

Time appears as real. All appearance is a partial reality. Therefore, time is a reality though not ultimate. It is as real as the finite world. Time is the process of finite things, and, therefore, it can not be ultimate as a character of the infinite universe. Space and time are the two great shapes of externality which we find transformed in various degrees upwards from the very first stratum in which it becomes compatible with experience. We partly understand time and space, but we are partly in them, and so far as we are in them we do not understand them. When we say that the self differs from a natural object by carrying its past with it in an intelligent form, we are in the

true sense including, by transforming, externality. In full reality there is no mere past, mere present, or mere future; every event lives throughout the whole. We thus leave Time behind.

HENRY BENTSON.

L'innéisme des fondements mathématiques. LOUIS DE CONTENSON. Rev. de Ph., XIV, 2, pp. 169–193.

This is the second of three articles on the 'apriorité' of mathematics. In the first article, a criticism of Kant from a philosophical point of view, the writer found the Kantian theory of mathematics seriously at fault. The present article, a criticism of Kant from the standpoint of mathematics, corroborates the conclusions of the first. Assuming the apodictic certainty of mathematics, Kant seeks to justify this certainty by grounding mathematics on the a priori forms of intuition: space and time. But space and time are objective, a posteriori, and imposed on the mind from without. Therefore, to base mathematics on space and time is to make it an empirical science and divest it of its absolute certainty. Moreover, an a priori origin of anything is no guarantee of its certainty, for supposed a priori truths are as difficult to verify as others. But mathematics does not rest on certain judgments of a priori origin. The fundamental principles of mathematics are not judgments, not synthetic, and not a priori; they are hypotheses, conventions, symbols cataloguing different systems of magnitudes. Such propositions as: "space can have only three dimensions," "some symmetrical figures are not superposable," and "three straight lines in the same plane form a triangle," cited by Kant as fundamental principles of mathematics, are not judgments, not synthetic, and not a priori. And far from being apodictically certain and of complete generality, as Kant supposed, they have been shown to be false, relative, or of limited application. They are true for the Euclidian geometry alone, the only geometry that Kant knew, on the supposition that mathematics is an empirical science, and not the work of pure reason unaided by experience. Kant's principles hold true of our three dimensional world, in which they are observed facts; but in the realm of pure reason, where *n*th dimensional worlds are as real as a three dimensional world, they are meaningless. Their opposites are equally true and are employed by the newer mathematics in dealing with *n*th dimensional spaces. Mathematical principles, however, do possess a certainty, the origin and nature of which will be discussed in the last article of this series.

RAYMOND P. HAWES.

L'innéisme des fondements mathématiques. LOUIS DE CONTENSON. Rev. de Ph., XIV, 3, pp. 288–309.

This is the last of three articles on the 'apriorité' of mathematics. The apodictic certainty of mathematics is not dependent on an a priori origin of its subject matter, magnitude. The notion of magnitude is of empirical origin, the result of observing external and internal objects, or perhaps succession in

time or plurality in space. Magnitude exists in a variety of forms or systems relative to one another, and the nature of the system in which we live is an empirical problem to be solved by experience alone. Moreover, the 'theory of transformation', by which we pass from one system of magnitudes to another, reveals the fact that the origin of the notion of magnitude exerts no determining influence on either the development or certainty of mathematics. Mathematics does not rest on a groundwork of certain judgments of a priori origin. The question whether mathematics has a 'certain' basis is unmeaning, for mathematics has no basis at all. The sole principle taken absolutely for granted is that of all reasoning or discourse, the principle of contradiction. Two judgments, contradictory if admitted simultaneously, may be admitted successively without contradiction, but any principle contradictory in its successive consequences must be rejected. The certainty of mathematics is due to the nature of its subject matter and of its method of procedure. Mathematics is a deduction of attributes from elements by judgments exclusively analytic. It affirms that if such elements have such attributes, there exists between them such relations. Hence, its conclusions are relative to premises and have a certainty proportional to that of the premises. Yet the conclusions are necessary, because no opposite judgments can be proposed to render them false, or doubtful, for the premises have been stated in all possible forms. Furthermore, the validity of the premises cannot be called in question, because they are not to be regarded from an absolute point of view. Though true when stated, they yield immediately to inverse judgments, when the latter are stated. Mathematical principles have only the validity we wish to attribute to them with reference to the system of magnitudes under consideration; but this validity we can make as great as we please. Mathematical principles are neither a priori syntheses nor empirical facts; they are conventions or labels for cataloguing various systems of magnitudes, some applicable to all, some to only one system. But experience alone can enable us to choose from all possible conventions those applicable to our own world.

RAYMOND P. HAWES.

On the Nature of Acquaintance. BERTRAND RUSSELL. The Monist, Vol. XXIV, 1, pp. 1–16.

This article is introductory to a series of articles which will advocate a kind of an analysis of the simplest and most pervading aspect of experience, namely acquaintance. It is a preliminary survey of the data of experience. Faint and peripheral sensations are included in experience. Attention is not a prerequisite for experience, for attention is a selection among objects that are 'before the mind' and, therefore, presupposes a larger field. Some facts—those which we see for ourselves—are included in our present experience. We now experience past things which we remember, for the remembering refers to something known to be in the past, a definite experience in the past, and not to the image which we call up now. We know that the group of things now experienced is not all-embracing, partly because of our belief in

a future, partly from the knowledge of the fact that we have forgotten something, and partly from the region of abstract mathematics and logical possibility. We regard our present and past experiences as all parts of one experience, of 'our' experience, through memory of a certain kind. The memory which prolongs our personality backwards in time is the memory of our experiencing, not merely of the things which we experienced. We believe that 'our' total experience is not all-embracing because; (*a*) there is no logical reason against it, (*b*) in the logical world there certainly are facts which we do not experience, (*c*) the common sense assumption, that there are particulars which we do not experience, has been found thoroughly successful as a working hypothesis.

Henry Bentson.

Zur Geschichte der Skepsis. I. Franciscus Sanchez. Dr. A. Coralnik. Ar. f. G. Ph., XX, 2, pp. 188–222.

Scepticism is not a doctrine, it is a thought genus, of which there are two species, the scientific, and the ethical-psychological. Franciscus Sanchez is a typical representative of the older scientific scepticism. Primarily he was a physician, and most of his writings are medical; but he also published a "Tractatus Philosophicus. Quod nihil scitur." The question as to whether knowledge is possible is left open; he is only concerned to prove that we know nothing, to the end that the yoke of Aristotelian logic may be thrown off. In eloquent language, he begins with the story of his dissatisfaction with past and present philosophical systems; and while he concludes with a conviction of the impossibility of laying hold upon certain truth, he asserts an untiring purpose to follow after nature by means of hypotheses, although time prove one after the other inadequate. The heart of his scepticism is the unknowability of the thing in itself. For the most part his discussion is a criticism of language in mockery of the scholastic worship of words and definitions. The endless regress of definition, the infinite richness of reality, the inability to image ultimate notions, give the grounds for his assertion that we know nothing. His criticism of the faculty of reason is based upon the propositions, that all knowledge is an organization of sense data, and that these data are untrustworthy. After these proofs that we know nothing, the third part of his treatise, which shows that nothing can be completely known, seems quite superfluous. Here his interest is chiefly theological. He desires to show that as finite creatures we can have no clear and distinct idea of the Creator. The flaw in his argument is his conception of the nature of science. He is not content with the systematization of experience, with truth valid within experience, but insists that we know nothing, since we do not grasp the thing in itself. Yet on the whole, his maintenance of a critical rather than a dogmatic attitude, the insistence on the wherefore with which he concludes, performed a real service in the development of philosophy.

Anita Frederica de Laguna.

Psychology as a Science of Behavior. B. H. Bode. The Psychological Review, XXI, no. 1, pp. 46–61.

The definition that psychology is concerned with 'the description and explanation of states of consciousness', is falling into disrepute. The assumptions involved in this definition still persist. Professor Watson, however, states that all that is significant in psychology is retained if the study is changed from introspection to behavior. According to Professor Angell the study of behavior is inadequate because of the inability to trace out the behavior without appeal to mental processes, and because mental processes are worthy objects of study. This latter position assumes that introspection yields 'purely subjective facts', and for that reason a strict behaviorist could not use them. Does introspection yield subjective facts? The keen eyed scientist might as well be treated as gathering subjective facts as the psychologist. The psychologist and the scientist use the same mode of approach, but it is assumed that their respective subject matters are different. According to Professor Titchener, psychology is concerned with experience in its aspect of dependence upon the body. This word dependence is ambiguous, so that consciousness is treated sometimes in terms of behavior, and at other times in terms of mental states. When dependence is used in this latter sense we have the old distinction and its accompanying problems of primary and secondary qualities. The behaviorist must differentiate the behavior as subject matter for psychology from other forms of behavior. The behaviorist is interested in the movements resulting from the stimulus only in so far as they constitute response. Psychology thus is a study of certain causal relationships. These causal relationships are concerned with a unique kind of relation between stimulus and response. The response is one which seeks and maintains the stimulus necessary for further response. The characteristic trait of conscious behavior, the subject matter of psychology, is that stimulus and response develop concomitantly. The distinctive trait of introspection is not its method or its subject matter, but its problem. The purpose of introspection is to discover the physical and physiological conditions of experience.

C. M. Hobart.

Hasard et Déterminisme. A. Darbon. Rev. Phil., XXXIX, 3, pp. 225–265.

The events which we attribute to chance have this singular character, that individually they cannot be predicted, but taken in mass their distribution may be accurately calculated in advance. A 'law of chance' seems at first glance a contradiction in terms, as chance is conceived as the negation of law. Yet predictions based on the 'law of large numbers' hold good in practice and the law must in some sense be valid. The calculation of probabilities originated in a question put to Pascal in connection with a game involving chance, and it was with such questions that early investigators—Bernouilli, Huygens, Montmart, Laplace, D'Alembert, etc.—principally dealt. But the application in recent times to social phenomena, vital statistics, crime, etc., has broadened the problem while adding interest to it. Practical results seem to necessitate

the admission of the validity of the concept of chance, in the sense that two events may be in reality equally probable (or in any other ratio). The problem which has puzzled those who have worked with laws of chance and attempted to derive them logically is, how to reconcile such a concept with universal causal determination, in which as scientists they have put implicit faith. Laplace thought the distribution of events according to probability might be explained by supposing the idea traceable in part to our knowledge (of behavior *en masse*) and in part to our ignorance (of the determining causes of individual instances). Two sets of causes are thus thought of as operating; one group are permanent and known and the other variable and unknown, while the former tend to preponderate over the latter in proportion to the number of instances considered. More recently Poisson, Cournot, H. Poincaré, LeDantec and others have grappled with the problem, but no one has been able to reconcile the notions of an event as really fortuitous and yet rigidly determined. It may be taken as established that there is no way out of the following dilemma: Either the theory of probabilities is an illusion, or else such a thing as contingency has a place in the world. A systematic treatment of chance thus conceived must take it up under two forms. The first of these is causal determination itself. For causes cannot furnish any final explanation of an event or give it a character of true necessity. Causal explanation is at best hypothetical: *if* the cause, then the effect; the cause must be assumed as *given*. Hence there is no reason at last why the event is as it is, and it would certainly have been different if previous events had been other than they were. The second form of contingency appears in the reasoned acts of sentient beings, in so far as they err in achieving their end through imperfect psycho-physical co-ordination. Examples are the distribution of shots in target-shooting, errors in reading scientific instruments, etc. A graver case is that of the divided will itself, hesitating between two ends. It is merely a verbal solution of the problem of choice to say that the stronger motive must win out, since we have no possible way of knowing which is the stronger (as in the case of mechanical forces) and simply arbitrarily call that one stronger which does finally control action. Such contingency is obviously an imperfection, and it is crudely inconsistent to make it the basis of responsibility in ethics and of certitude in epistemology. Still, it prepares the way for liberty by interrupting the blind, fortuitous succession of perceptions and reactions and calling the personality into play. Liberty is properly defined as completely motivated action, and must be regarded as a victory over contingency, not as contingency itself.

F. H. KNIGHT.

Des bases méthodologiques de la géographie humaine. PHILIPPE CHAMPAULT. Rev. de Ph., XIV, 2, pp. 113–136.

In the study of the relation of the earth to man the older geography was purely descriptive, while the newer geography seeks to be explicative and calls itself 'la géographie humaine' or 'l'Anthropogéographie.' Élisée Reclus

represents the older tendency and Jean Brunhes, the newer. Reclus merely describes the modifications of the earth's surface due to man, while Brunhes attempts to connect causes with effects and to formulate laws. For Reclus 'la géographie humaine' is the study of " the modalities of the earth's surface due to human activity"; for Brunhes it is "the science of the modalities of human activity on the surface of the earth." For Reclus place is the true and only object of geographical study; for Brunhes place is only the occasion or point of departure. Consequently Reclus does not encroach on the fields of the other sciences, while Brunhes creates sociology instead of geography. In tracing out the reciprocal influence of man and place or of historical events and geographical facts, Brunhes is dealing with human societies or groups, and therefore with social relations and facts or with the sociological aspect of such relations and facts. Wherever the 'Anthropogéographes' have been explicative, they have dealt with sociological facts; but, since they are not specialists in the latter field, the quality of their work has been poor. Any scientist who can utilize sociological data in the description of his own phenomena is welcome to them, but he should accept such data as authoritative and not attempt to transform or remake them. If the 'Anthropogéographes' wish to be merely geographers, they should accept the conceptions and procedure of Reclus and merely describe the earth's surface without encroaching on the domain of the sociologist; but if they wish to explain, to relate causes and effects, and formulate laws, they should become genuine sociologists and employ the accredited procedure and methods of sociology.

RAYMOND P. HAWES.

The Work of Henri Poincaré. HAROLD CHAPMAN BROWN. J. of Ph., Psy., and Sci. Meth., XI, 9, pp. 225–236.

In Poincaré were united such intensity of philosophic interest and scientific creativeness as have never before been united in one man, with the exception of Aristotle, and possibly Leibniz. His reflections on the nature and significance of scientific truth mediate between the rationalistic ideal of a static truth and a sceptical relativism. A new hypothesis must keep alive something of the old one it supersedes, for, though inadequate, the discarded hypothesis had some measure of real usefulness. Science always implies the organization of facts; and, while experiment is the path to knowledge, no mere collection of experiments constitutes a science. The purpose of our theories is not to describe things. Their durability lies in their power to simplify and unify the relations between things; their ephemeral aspect, in their descriptive implications. Mathematical facts expressed in Euclidean terminology can be translated into any non-Euclidean system; so that geometries are only languages, transcriptions of experience, and are not founded on arbitrary postulates. M. Poincaré believed that morality was founded on feelings; hence there could be neither a science of morals nor a conflict between science and morality. Finally, the value of science for him was not expressed in material achievement; science was not the mere servant of man, but 'the

assertion of a cosmic law through which man becomes more finely moulded than the beasts.' Truth, not loved truths, succeed. 'Truth is eternal, though ideas perish, because ideas beget ideas, as men beget men.'

Anita Frederica de Laguna.

Ethical Pessimism in Bergson. J. W. Scott. Inter. J. of Ethics, XXIV, No. 2, pp. 147–167.

The aim of the paper is to point out the ethical pessimism in Bergson, and to question whether there is any reason for it in his account of the comic. Bergson's problem is what do we laugh at when we laugh? His idea is that the comical is the unadaptable and the unadaptable is the rigid. In pointing out the comic in life, he shows that so much of life is ridiculous, that the whole loses in ultimate value. The way to test the justice of the conclusion is to discover the moral view which underlies this conception of the comic. According to Bergson laughter is a means of securing moral conduct. Our question is whether such a means does not sacrifice some absolutely valuable aspects of life. Bergson points out correctly that the comical is the mechanical. But is it the mechanical aspect at which society laughs? What is comical is not the mechanical, but the mechanical movement of life. Bergson obscures the predominance of the human aspect—that the human aspect is the cause of the comical. The distinction between the comical and the moral is the presence of serious feelings in the latter. Such a statement is tautology. According to Bergson whenever life turns backwards, repeats itself or allows any of its elements to become transposable, it becomes comical provided the picture does not touch our feelings. The real effect of the serious and the comic is secured by the substitution of abrupt transitions for life's supposed fine gradations. The serious and the comic differ in degree as to the substitution. In the serious the substitution is not felt. For Bergson the comical presents abrupt transitions, the moral delicate gliding movements. But according to life is not the moral often abrupt and mechanical? To rule out the mechanical in the moral sphere is to rule out the only kind of morality we can possess. Such a procedure leads directly to a moral relativity. According to such a view the good is simply making delicate adjustments to varying circumstances. The moral imperative becomes, 'be adaptable'. We may sum up the position of this paper as follows. Bergson is correct in showing that the comical and the moral possess a common character. He fails to recognize the relative spheres of the comical and the moral, since he fails to see that this common character is a constituent of society's ideal.

C. M. Hobart.

Are Meanings Inherited? C. Lloyd Morgan. Mind, XXIII, 90, pp. 169–179.

It is almost impossible to adduce examples of purely instinctive behavior, for there is so much instinctive warp and so much intelligent woof in all of our actions. The author examines the standpoint of Stout and MacDougall, who

hold that meanings are inherited as well as acquired, and attempts to show that in most cases—if not in all—the inherited meanings are really the result of previous activity on the part of the individual. The establishment of associations is the work of intelligence. When associations have been formed, revival is made possible. That which is so revived is comprised under the head of (secondary) meaning, which raises the original presentation to the perceptual level. The reaction to these presentations will be different from the reaction to the original ones. If there is a difference between inherited and acquired meanings—if all are not of the latter kind—it is difficult to distinguish between them. The 'as ifs' in relation to instinctive behavior must not be interpreted as if they really were. The prevision of animals, in most cases, may be attributed to the intimate correlation between hereditary relatedness and relatedness to the environment. We must be careful not to attribute to animal behavior that which distinctly belongs to the mental life of human beings. At any rate, the question of inherited meanings has practically no bearing upon the interpretation of psychological problems.

HENRY BENTSON.

Psychic Function and Psychic Structure. HENRY RUTGERS MARSHALL. Mind, Vol. XXIII, pp. 180–193.

With regret the author sees the study of structural psychology give way to so-called functional psychology or the study of behavior. These studies of behavior are primarily biological and only incidentally psychological and involve teleological assumptions or implications which are foreign to strictly psychological manner of thought. Functional or 'process psychology' as well as structural must use the introspective method, and both are essential. The development of all science comes when attention is turned, not to the characteristics most easily discerned, but to searching out fundamental laws of which these characteristics are merely emphatic exemplifications. Consciousness is a psychic system rather than an elaborate combination of isolable psychic elements. The consciousness of a given moment corresponds in some manner with the activities in the same moment of some part at least of the individual's nervous system. All nerve substance—so long as it is alive—is active. These activities the author calls neururgic emphases, and they never stand alone, but each appears as part of what he calls a neururgic pattern. The activities of the whole nervous system are fundamentally of the same nature throughout. All parts of the correlated nerve system are reciprocally efficient. So consciousness is of the same fundamental nature throughout, and all parts of consciousness are reciprocally related. Diversities of psychic process are really diverse manifestations of one fundamental process. There is a receptive and a reacting nerve activity which corresponds to cognition and conation. Each neururgic emphasis and each neururgic pattern is *sui generis*, as is likewise each mental item and each psychic pattern. Each psychic emphasis shows some measure of complexity, of intensity, of agreeableness or disagreeableness, some degree of stability or realness, and some temporal qualification—five

senses of relation. All of these must exist together in one moment in any psychic emphasis.

HENRY BENTSON.

A Definition of Causation. W. H. SHELDON. J. of Phil., Psy., and Sci. Meth., Vol. XI, No. 8, pp. 197–208.

This article is the first of a series which will deal with the subject of causation. The author points out the fact that although not much is said about this subject today, still in our transactions with reality—so far as reality is vouchsafed to mortals—the category of causality is inevitable and ubiquitous, because it deals with the connection of events. In order to arrive at a valid definition of causation the following method is proposed: take the analysis which science furnishes of each cause and of each effect, and of the process by which the one turns into the other; suppose this is accomplished for all kinds of cases which are treated in the various sciences; and suppose, finally, that we find common to all cases a certain logical structure. This structure will constitute an empirically grounded definition of causation. We must choose an empirical or concrete method and not the abstract or deductive. Causation, because of its own special nature, is internal to the particulars of the actual world. Even though our theory of causation is not actual but only ideal, it is an ever closer approximation to existing facts, and their detailed content depends more and more upon the nature of those facts. In the fields of science the cases of cause-effect must be selected according to the following rule: whenever a law is spoken of, or a principle, in accordance with which one actual fact, situation, or event uniquely determines another fact—or its own future state—then we have what science treats as causation. In tracing down the different sciences to see how many of them offer distinct types of causation, he concludes that only the field of physics need be examined. The total field of nature, so far as studied by physics, is comprised under the following divisions: mechanics, including static and dynamic, properties of matter such as elasticity, capillarity, density, etc., heat, sound, light and radiant energy, magnetism and electricity. To these fields we add those embodied in transformation of energy from one field to another, e. g. of electricity into light, of motion into heat or light, etc. Again he makes a synthesis and concludes that according to the present view of science, all cause-effect situations in nature are in the last analysis, and so far as there is general agreement, either mechanical cases, or cases determined by 'properties of matter', such as elasticity, friction, etc., or cases of electricity, or combinations of some or all of these.

HENRY BENTSON.

NOTES.

The second volume of the *Jahrbücher der Philosophie*, edited by Professor Frischeisen-Köhler of the University of Berlin, has just been published. It is proposed to deal in each of the yearly volumes of this publication with some special field of philosophy: volume I was devoted to Theory of Knowledge and Psychology, volume II is occupied with Practical Philosophy, including Education, while it is proposed next year to deal with problems of Metaphysic and Religion.

Since the death of Professor Heinze the revision of Überweg's *Grundriss der Geschichte der Philosophie*, which he carried through several editions, has passed into the hands of a board of editors composed of Professors K. Praechter, M Baumgartner, M. Frischeisen-Köhler, and Privat-docent K. Oesterreich. The work is contained in four parts, of which the first, dealing with Ancient Philosophy, and the third, with Modern Philosophy to the end of the eighteenth century, have already appeared. The other parts are announced for publication in a short time. These parts will constitute the tenth revision of the history of Ancient and Mediaeval Philosophy, and the eleventh revision of the history of the modern period.

At Harvard University Professor Josiah Royce has been transferred from the chair of the History of Philosophy to the Alford Professorship of Natural Religion, Moral Philosophy, and Civil Polity, formerly held by Professor George H. Palmer. Professor W. E. Hocking has been called from Yale to a professorship of philosophy, and R. F. Alfred Hoernlé of Armstrong College, Newcastle-on-Tyne, has been made assistant professor.

Among other changes in philosophical teaching positions we note the following: Professor A. K. Rogers of the University of Missouri has been called to Yale University; Professor George H. Sabine of Stanford University has been appointed to a professorship of philosophy at Missouri; Dr. E. L. Talbert of the University of Chicago will next year have charge of the work in philosophy at the University of Cincinnati during the sabbatical leave of Professor Tawney; Dr. J. F. Dashiell, (Ph.D., Columbia), has been appointed instructor at Princeton University, and Roberts B. Owen, assistant in Cornell University, has been called to Columbia University as lecturer.

We give below a list of articles in the current philosophical magazines.

The Journal of Philosophy, Psychology and Scientific Method, XI, 8: *W. H. Sheldon*, A Definition of Causation. I.; *Morris R. Cohen*, Rule versus Discretion; *Irving Babbitt*, The Modern Spirit and Dr. Spingarn.

XI, 10: *W. H. Sheldon*, A Definition of Causation. II.; *H. M. Kallen*, Value and Existence in Art and in Religion.

XI, 11: *Hartley B. Alexander*, The Perception of Motion; *H. L. Hollingworth*, New York Branch of the American Psychological Association.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XXV, 2: *G. Stanley Hall*, A Synthetic Genetic Study of Fear; *John Madison Fletcher*, An Experimental Study of Stuttering; *W. B. Cannon*, The Interrelations of Emotions as Suggested by Recent Physiological Researches; *Jared S. Moore*, The Articulation of the Concepts of Normal and Abnormal Psychology; Minor Studies from the Psychological Laboratory of Vassar College; *E. B. Titchener*, Laboratory Notes; *E. B. Titchener*, A Note on Sensation and Sentiment.

THE PSYCHOLOGICAL REVIEW, XXI, 3: *Harvey Carr*, Principles of Selection in Animal Learning; *George V. N. Dearborn*, Certain Further Factors in the Physiology of Euphoria; *William Healy*, A Pictorial Completion Test; *Eliott Park Frost*, Cannot Psychology Dispense with Consciousness?; *William J. Maloney*, The Mechanism of Mental Processes as Revealed in Reckoning.

MIND, 90: *C. Lloyd Morgan*, Are Meanings Inherited?; *Henry Rutgers Marshall*, Psychic Function and Psychic Structure; *F. Melian Stawell*, Some Problems of Philosophy; *Horace M. Kallen*, James, Bergson, and Traditional Metaphysics; Discussions: *C. I. Lewis*, The Calculus of Strict Implication; *Charles Mercier*, Is Inversion a Valid Inference?; *J. E. Turner*, Mr. Russell on Sense Data and Knowledge.

THE AMERICAN JOURNAL OF THEOLOGY; XVIII, 2; *George A. Coe*, The Origin and Nature of Children's Faith in God; *Karl Bornhausen*, The Present Status of Liberal Theology in Germany; *Lewis Bayles Paton*, Canaanite Influence on the Religion of Israel; *E. F. Scott*, The Significance of Jesus for Modern Religion in View of His Eschatological Teaching; *D. E. Thomas*, The Psychological Approach to Prophecy; *Durant Drake*, Widening the Church's Invitation; Critical Notes; *Edgar J. Goodspeed*, The Three Gospels; *Satyasaran Sinha*, Will India Become Christian?

THE HIBBERT JOURNAL, XII, 3: *H. Hensley Hensen*, Kikuyu; *R. H. Coats*, Sacraments and Unity; *W. Macneile Dixon*, Inspiration; *John Jay Capman*, Where Faith and Morality Meet; *Norman Kemp Smith*, The Middle Ages, The Renaissance, and The Modern Mind; *The Headmaster of Eton*, Criticism of the Public Schools; *Archibald Weir*, The Anthropological Point of View; *Benjamin B. Warfield*, The Twentieth-Century Christ; *B. H. Streeter*, The Suffering of God; *H. W. B. Joseph*, Mechanism, Intelligence, and Life; *A. D. Martin*, One Avenue to God; *Edith Hunter*, Order and Unrest; *Charles F. Dole*, The Great Alternative.

THE HARVARD THEOLOGICAL REVIEW, VII, 2: *Eugene W. Lyman*, Social Progress and Religious Faith; *Willard Learoyd Sperry*, Mark Rutherford; *Thomas Cuming Hall*, A Protestant and Social View of the Church; *Ephraim Emerton*, Martin Luther in the Light of Recent Criticism; *Frederic Palmer*, A Crisis in the Church of England; *Albert J. Edmunds*, Recent Translations of Buddhist Writings.

THE INTERNATIONAL JOURNAL OF ETHICS, XXIV, 3: *C. Delisle Burns*, What is Religious Knowledge?; *Charles W. Super*, Ethics as a Science; *A. Barratt Brown*, Intuition; *C. D. Broad*, The Doctrine of Consequences in Ethics; *N. C. Mukerji*, Idealism and the Conception of Law in Morals; *F. J. Gould*, An Ethical Teacher's American Tour.

THE MONIST, XXIV, 2: *Bertrand Russell*, On the Nature of Acquaintance. II. Neutral Monism; *Philip E. B. Jourdain*, The Principles of Mechanics with Newton; *Louis Trenchard More*, The Units of Measure and the Principle of Relativity; *Edmund Noble*, Purposiveness in Nature and Life; *Paul Carus*, Death (Poem).

KANTSTUDIEN, XIX, 1 u. 2: *Fritz Medicus*, Bemerkungen zum Problem der Existenz Mathematischer Gegenstände; *Richard Hönigswald*, Über Thomas Hobbes' systematische Stellung; *Hugo Spitzer*, Der unausgesprochene Kanon der Kantischen Erkenntnistheorie; *Heinrich Scholz*, Fichte als Erzieher; *Heinrich Richert*, Über logische und ethische Geltung; *Bernhard Hell*, Robert Mayer.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, XXVII, 3: *Willi Schink*, Kant und Epikur; *Jos. Klem. Kreibig*, Bernard Bolzano. Eine Skizze aus der Philosophie in Österreich; *Johannes Dräseke*, Zu Platon und Plethon; *P. Bokownew*, Socrates' Philosophie in der Darstellung des Aristoteles; *Louis Rougier*, La Correspondance des genres du Sophiste, du Philèbe et du Timée; *W. Sange*, F. P. v. Herbert.

ZEITSCHRIFT FÜR PSYCHOLOGIE, 68, 5 u. 6: *Richard Liebenberg*, Über das Schätzen von Mengen; *Alexander Kühn*, Uber Einprägung durch Lesen und durch Rezitieren.

REVUE DE PHILOSOPHIE, XIV, 4: *P. Charles*, La métaphysique du Kantisme. IV.—Le noumène; *P. Duhem*, Le Temps et le Mouvement selon les Scolastiques (cinquième article); *P. Florian*, De Bacon à Newton. II.—La méthod scientifique de la Société royale de Londres; *Ch. Boucaud*, Les initiatives de la procédure et la genèse historique des droits; *L. Pascault*, L'homme: sa nature, sa loi, sa destinée, d'après Blanc de Saint-Bonet.

XIV, 5: *J. Bulliot et M. Sérol*, La Philosophie et la pensée commune; *P. Duhem*, Le temps et le mouvement selon les Scolastiques; *P. Florian*, De Bacon à Newton. III.—La Société royale de Londres et les philosophes du XVII^e^ siècle; *G. Gondé*, Autour des Sciences occultes. Un Congrès dit "de Psychologie expérimentale"; *J. D.*, Comment aborder un sujet de dissertation?

REVUE PHILOSOPHIQUE, XXXIX, 4: *R. Goblot*, Logique et Psychologie; *A. Rey*, Vers l'intuition expérimentale de l'électron; *A. Schinz*, Le droit du plus fort et le droit dit "naturel"; *J. Delvaille*, L'idéalisme social.

XXXIX, 5: *J. de Gaultier*, Sous quelles conditions le mysticisme est légitime; *A. Rey*, Vers l'intuition expérimentale de l'électron; *N. Kostyleff*, Contribution à l'étude du sentiment amoureux; *C. Ranzoli*, Il caso nel pensiero e nella viata.

REVUE DES SCIENCES PHILOSOPHIQUES ET THÉOLOGIQUES, VIII, 2: *M.-D. Roland-Gosselin*, L'intellectualisme de Leibniz; *P. Synave*, La causalité de l'intelligence humaine dans la révélation prophétique; *Ét. Hugueny*, L'institution des sacrements. Étude apologétique; *M.-S. Gillet*, Les harmonies de la Transsubstantiation: sacrement et sacrifice; *A. Lemmonnyer*, Achima.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XXII, 2: *L. Dugas*, La "Feuille de charmille" de Jules Léquyer; *A.-R. Schweitzer*, Les idées directrices de la logique générique des mathématiques; *X. Léon*, Le socialisme de Fichte d'après l'État commercial fermé; *E. Laskine*, Les transformations du droit au XIX^e^ siècle; *G. Lechalas*, L'arc-en-ciel et les peintres; *S. Ginzberg et L. Couturat*, À propos des propositions particulières; *G. Guy-Grand*, Politique extérieure et démocratie.

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RESPONSIBILITY.

1. Man's pride of intellect is nowhere more clearly shown than in his formulation of what he calls principles of action which enable him to persuade himself that he is guided by reason in certain forms of behavior which have been forced upon him by tradition, or have become habitual to him without rational initiative. And it is instructive to note how well satisfied he remains when once he has made such formulations, even where there is patent evidence of grave inconsistencies between these principles and his actual practice.

An interesting instance of such formulation is given in the every-day justification of our current modes of punitive procedure, which are very generally held to be based upon the principle that only those who are guilty are properly punishable, and that only those are guilty who are responsible. And an equally interesting example of our carelessness as to the correspondence between principle and practice is seen in the fact that we can make no pretense whatever to consistency in the application of this principle. We often hold a person responsible for an evil deed, without thinking of him as guilty; as in the case of an experienced mountaineer who over-persuades a mere novice to attempt the ascent of a difficult peak and leads him to his death. And we as often punish those whom we cannot possibly hold guilty of evil intent; as, for instance, the careless chauffeur who runs down a pedestrian.

These are but examples of many that will occur to the reader, and which should certainly lead us to inquire whether the rela-

tions between the conceptions of punishment, guilt, and responsibility are really what they are commonly thought to be. In what follows I shall limit this inquiry in the main to the relation of responsibility to guilt.

2. Clearly our whole manner of thought in relation to this subject must depend upon the meanings we attach to the terms responsibility and irresponsibility; and we are naturally led at the start to ask how the average man distinguishes between the two, and upon what evidence he bases the assumption that such distinction can be made. To these questions, however, we find no satisfactory reply.

Certainly if there exist any signs to give warrant for this distinction, we should be able to note them in connection with the development of the child, who is commonly held to be irresponsible at birth, but to have acquired responsibility at some later period. But it must be granted that this becoming responsible is not known to be a definite event in the life of the child, and also that we have not the slightest suggestion of any mark which indicates that there is any such moment of transition between irresponsibility and responsibility in the course of its growth.

Nor do we find the case better when we inquire as to the ground for making the commonplace distinction between the responsibility of sanity and the supposed irresponsibility of insanity, which distinction itself is evidently based upon the assumption that we are able to draw a definite line between the sane and the insane.

The psychiatrist deals with cases that display more or less specific diseased conditions, evidenced by abnormal mental states and morbid activities. These he chooses to speak of as cases of insanity. But as soon as he attempts to draw a sharp line between sanity and insanity he fails utterly; for then it appears that no man is in every respect normal and in every particular rational, and that the normal rational man is really an ideal. The distinction between the sane man and the insane man is thus seen to be determined by the ideals as to normality held by those who pass judgment;—ideals which are shifting in

form, and always influenced in nature by the emotional attitude of those who judge.

In fact, the really conscientious psychiatrist in our day often hesitates when asked to decide whether a man is sane or insane, telling us that he ought rather to be asked whether he considers the man to be responsible or not. But when we suggest that he tell us what definite symptoms distinguish responsibility from irresponsibility we find that he can show us no mark which clearly indicates the presence or absence of either the one or the other. His statement of belief that a culprit is, or is not, responsible has no greater weight than that attaching to his own personal judgment.

3. These difficulties lead us to inquire as to the real meaning of the conception of responsibility, and in the beginning to ask what the average intelligent man understands by the word.

In looking for an answer to this question we naturally turn to the dictionary definitions; and there we at once find evidence that the current usage of the word is determined almost entirely by legal applications. Responsibility is very generally defined as the equivalent of accountability. A man is held to be responsible for a debt, or for an act, when he may be held accountable for the payment of what he has borrowed, or for the results of his act.

Now accountability is a matter which is largely determined by expediency. Whether I shall be accountable for my debt depends upon the wish of the man who loaned me the money, and upon the conditions under which the loan was made. Whether I shall be accountable for the results of my act depends upon the will of judges and jurors. Thus accountability varies greatly with the circumstances under which the debt was incurred, or the deed was performed; and upon those which exist when judgment is passed.

But we certainly cannot look for any distinguishing marks of responsibility by reference to a conception which involves questions of expediency; and we are thus tempted to ask whether, by any chance, this definition of responsibility in terms of accountability can be an inadequate one; a questioning that is

emphasized when we observe our own inner experiences of the 'sense' of responsibility, which no one can claim to be identifiable with our appreciation of accountability, or to have any relation to expediency. We often feel a deep sense of responsibility when we have no possible ground for fear that we may be held accountable for the deeds referred to. We assume responsibilities which are in no sense dictated by tradition, custom or law.

Furthermore, we find certain instances where responsibility, even as objectively viewed, cannot be identifiable with accountability. Take for example the case of the skilled mountaineer referred to above who leads the novice to his death. He is not held to be guilty just because we can find no ground for holding him accountable. And yet we hold him responsible; thereby showing distinctly that our conception of responsibility is distinct from that of accountability.

We note further that the difficulties above referred to in relation to the determination of the responsibility of the child, and of the so-called insane, arise in all cases in connection with attempts to determine the limits of accountability, and are frequently decided on grounds of mere expediency; this suggesting that these difficulties may arise just because we assume that responsibility means accountability, when really it does not.

All this leads us to note again that this identification of responsibility and accountability is one that has its especial significance in legal procedure; which in turn suggests the thought that this connection between the two may possibly be due merely to the habitual use of the terms in conjunction, and not to any real interdependence. May it not be, that, as these conceptions have developed, we have come to think of responsibility and accountability as equivalents merely because those whose usage has fixed the definition have given their attention to the determination of responsibility only when they have been concerned to determine questions of accountability?

4. In turning to this question we naturally find ourselves attempting to picture the situations under which the conception of responsibility probably had its birth. We think of the savage who has killed another man who has murdered one of his friends,

and who has been brought before the tribal chief and questioned as to his excuse for the killing of his fellow. Clearly his explanation, however obscurely he might put it, would imply that the man he killed was the same individual that did the first killing, and one who might kill again. Simple situations of this nature we may surmise must have led to the earliest dim notion that a man should be held responsible for his deeds of the past; and it is to be noted that the thought involved with this crude conception must have centered upon the *identification* of the individual who had committed the criminal act.

It seems evident that our own conception of the criminal's responsibility for his past act must involve the thought thus obscurely appreciated by the savage; and it would thus appear that this notion of the identity of the man accused of the crime, and of the man who committed the crime, is one that we must not lose sight of in our study.

This becomes clearer when we consider the probable origin of the opposed conception of irresponsibility. For the germ of the notion of responsibility must have appeared among those early men who thought human behavior to be initiated by a spirit which was looked upon as a fixed entity dwelling within, but somewhat loosely attached to, the body which it left during sleep, and during fainting fits; and which might at times be displaced in control of the body's activities by alien spirits, as was supposed to be the case under conditions of dementia and delirium. It would be most natural then for the savage, when he honored the criminal, and did not wish to punish him, to assume that the morbid acts of the individual were not the man's own, but were those of an alien spirit temporarily abiding in him; and in declaring such a man irresponsible at the time of his criminal act, it will be noted, he would actually be claiming that the identity of the criminal had been disproven.

Now, even if it be held that this account of the origin of these correlated conceptions is visionary, nevertheless it must be granted that the conception of responsibility held by the average intelligent man in our day involves a development of the notion thus attributed to the savage of low intelligence; viz. that the

man who is now thought to be responsible for the crime is the same individual who committed it in the past, and who is therefore likely to commit it again in the future. But it seems clear that this mere notion of identification does not in itself involve the conception of accountability, although it is equally clear that as man developed, and as his modes of procedure became less immediate and direct, questions as to accountability and guilt would soon become intimately connected with questions as to identification.

This very fact, then, that the notion of identification probably was primary, and still is implicit, in the conception of responsibility, should lead us to see that the fundamental notion upon which the conception is based is not that of accountability at all; but is that of *authorship*.

5. It is important then for us to consider the implications of the notion of authorship as applied in the building up of the conception of responsibility. In holding that a man should be punished because he was the author of a crime, we really hold that, were the situation incidental to the crime repeated, the accused man of this moment would act, practically, as he did in the moment of the crime. And this position is taken because of our conviction that the man's character in any moment is what it is because of the nature of his character as displayed in his past acts; this again meaning that the man before us would not be what he now is had not an individual of a certain character capable of the crime existed in connection with the man's body at the time of his act of the past.

But evidently we are here dealing with a general principle, and not merely with the particular criminal act. What we are really acknowledging in this isolated judgment is that the individual man of any moment would not be what he is in that moment but for the previous existence in connection with his body of *all* the characteristics which in the past have led to *all* the special modes of his behavior with which his fellow men are acquainted.

This broader implication is indeed not generally appreciated, but it is really accepted in a number of our modes of criminal

procedure. We commonly hold for instance that, if a man would have been properly punished at the very moment of a criminal act, he is properly punished at a future time long after its commission; in this tacitly acknowledging that the man's present nature is what it is because of the previous existence in connection with his body of all the characteristics which have led to all of his past activities. And we make this same acknowledgment where in judging of a man's responsibility we take into account his general character, aiming thus to discover the kind of person the accused man generally is, and therefore now is. This of course means that we base our judgment not only upon the evidence we have of his exceptional criminal act, but also upon the assumption that he would not be what he now is but for the previous existence in connection with his body of all the characteristics that he has in the past expressed by all of his acts, and not merely of those characteristics evidenced by the exceptional criminal act.

6. We are thus led by clearly defined steps to a conclusion of broad import, which stands opposed to a large body of current opinion; for evidently the proposition upon which the conception of responsibility is thus held to depend is not one that can be limited to have reference to only some of a man's activities. As there is no case in which a man's present nature is not developed from his past nature, there can be no case in which a man's present nature does not bear in it the traces of his past acts, and therefore no case where a man's present nature is not what it is largely because of characteristics which under given conditions made his past acts what they were. It is little less than absurd to say that a man who has done a certain deed is not now a different man than he would have been had he not done that deed; and that a just judgment of his present character can be made without recognition of the fact that he acted as he did in the past.

Very evidently, then, if we agree that the essence of the notion of responsibility lies in the recognition of the fact that a man would not be the individual he is at any given moment but for all his past activities, we must also agree that he is always responsible for all his activities; or, in other words, that *there is no such thing as irresponsibility.*

7. This result of our study will without doubt appear not only radical, but repugnant to many who are accustomed to gain satisfaction in the assumption that they are not responsible for a large proportion of their acts. Yet upon consideration it becomes evident that just such a conception is of necessity tacitly involved in all ethical theory worthy of consideration. For it is difficult to see how any treatment of human character and human behavior can lay claim to rational consistency which accepts a theory that we are at times responsible and at other times irresponsible, without being able to define clearly the distinction between the two situations involved; and this we have seen to be impossible.

The same position is also tacitly assumed by all of us in what we may call the practical ethics adopted in our guidance of the young. Whether a child is, or is not, to be held responsible under given conditions may be a subject of discussion among his guardians; but we all realize that, if we would foster his moral growth, it is the worst of folly to allow him to gain the belief that he ever can be irresponsible.

And yet it is evident that one cannot expect such a view to be accepted without hesitation; for if we agree that we are responsible for all our acts we must make no little change in our habitual attitude in relation to our deeds. For then we can no longer claim responsibility for those acts which are applauded by our fellows while denying it for such as yield deplorable results, as we are so often inclined to do. We can no longer attempt to shift the responsibility for certain of our acts upon others who may have influenced our lives by example or teaching; those who have thus guided us must be held to be responsible for such guidance; but we must accept responsibility none the less for our willingness to be guided, and for the acts which follow. Nor can we longer claim irresponsibility for activities which are due to habits acquired voluntarily, or which are encouraged by those to whom we look for guidance; no, nor even for those actions which are apparently automatic, as we say, and largely due to inherited traits.

8. This last point indeed presents special difficulties which

must be considered in detail; but before undertaking this it will be well to turn for a moment to the study of the relation that is generally supposed to hold between responsibility and guilt.

It is usually assumed that these two conceptions are coordinate and inseparably connected; an assumption which cannot be made, however, unless we overlook the very patent fact that responsibility has a broader application than guilt.

In the first place guilt relates only to such of our acts as yield evil results; while responsibility is held to apply to deeds which yield good results as well as to those which yield evil. No one hesitates to attribute to Lincoln the responsibility for the emancipation of the slaves, even as no one hesitates to attribute to Wilkes Booth the responsibility for Lincoln's untimely death.

And, in passing, it may be noted that, this being the case with responsibility, it would seem that irresponsibility, if there be such a thing, ought also to be held to apply as fully to good deeds as to those that result in evil. But here we find men less in agreement. They are ever ready to claim irresponsibility for deeds that are followed by misfortune or disaster; but seldom willing to deny responsibility for those that yield good fortune and benefit to others. We are relatively firm in our application of responsibility, but vacillating in our application of irresponsibility.

The fact that we apply guilt to a range of our activities much narrower than that to which we apply responsibility becomes still clearer in the fact that guilt is very generally held to relate only to those acts yielding evil results that are unquestionably volitional; while responsibility is not infrequently applied to such acts even when they are in no sense voluntary. No one could properly claim, for instance, that the act of self-protection which leads a man to push forward in a panic, and to forget his neighbor's danger, is volitional in its nature; nevertheless we commonly hold the man responsible for his act, although we do not hold him guilty.

But, notwithstanding this patent evidence that responsibility has a wider range of applicability than guilt, we find ourselves so very generally attributing guilt to the man whom we think

of as responsible for evil, that we are led to disregard this difference; and it is because we do so that we take the position that guilt is inapplicable where, as is claimed, the culprit is irresponsible. We apply both guilt and responsibility to the man who intentionally initiates evil deeds with the knowledge of their outcome; and are then led to hold that, if he is irresponsible, he is not guilty, even though he appears to have acted voluntarily, and with full appreciation of the probable result of his acts. Hence arise those cases where the plea of insanity is made in order to show irresponsibility, although it is acknowledged that the culprit fully intended the evil result that followed his act.

If then guilt is never felt to apply unless responsibility also applies, and if the range of applicability of responsibility is greater than that of guilt, guilt would appear to be a special case of responsibility. And when we ask what may be the special mark which distinguishes the responsibility of guilt from all other forms of responsibility our attention is turned again to the conception of accountability which is so generally thought to be the equivalent of responsibility. And this leads us to note that while responsibility, as we have seen, is not necessarily connected with accountability, guilt is thus necessarily connected; for we do not attribute guilt to a man unless we agree that he is to be held accountable for his evil deed. This at once suggests that the mark which distinguishes the responsibility of guilt is to be found in the fact that accountability is necessarily attached to guilt, and not necessarily to other forms of responsibility.

It would appear then that while responsibility is not, guilt is, determined by accountability; and we seem thus to be justified in our suspicion that the assumed relation between responsibility and accountability is an adventitious one, which has become fixed in our minds by the fact that we seldom give attentive thought to the conception of responsibility unless we are concerned to determine whether a man is accountable, and may therefore be held to be guilty.

The connection which is also so generally assumed to exist between guilt and responsibility, would thus in its turn ap-

pear to be an adventitious one, due to our carelessness of thought. Evidently then, if responsibility applies to all of our acts and there is no such thing as irresponsibility, all questions as to the dependence of guilt upon responsibility at once appear to be purely academic. For whether a man is, or is not, guilty in regard to a special act, he nevertheless, under our view, is responsible in the one case as in the other, wherever his causal efficiency is involved. The supposed relation of responsibility to guilt appears therefore to be altogether irrelevant in regard to questions which arise in connection with the attribution of guilt.

9. We may now return to the consideration of the difficulty above referred to in reference to the claim that responsibility applies to what we call our 'automatic' acts, and to those due to inheritance.

A reader may perhaps express this in terms of some such question as this: 'Do you really mean to maintain that a woman who kills her babe in the mania accompanying puerperal fever is responsible for her act?' And to such a question I must of course, in consistency, make an affirmative reply; but I would beg my questioner to note that if this affirmation seems repugnant to him it is only because of the very close connection in his mind between guilt and responsibility, which we have just seen to be one of accidental association only. For I would ask him to note that when he put this question he did not really mean to ask whether I should hold the woman to be responsible, but rather whether I should hold her to be guilty; and to that question I should of course give a negative reply.

The point I would make is this: that as the poor woman's nature at the time of the killing must have been what it was because it bore in it the marks of all the acts of her previous life; so her future character must be based in part, and in this case in very small part, upon her nature as displayed in her maniacal act. We acknowledge this, indeed, when we take precautions to prevent the woman from repeating her murderous act when next she bears a child. This relation of her maniacal act to her character, as it existed immediately after the act in question, involves the relation of her authorship to her present nature; and this,

as we have contended, is of the essence of her responsibility, although it bears but a minor and indefinite relation to the question as to her possible guilt.

10. But the most important direction in which this conception of the meaning of responsibility clashes with our every day views is presented when we note that if there is no such thing as irresponsibility, then we must be responsible not only for those acts that are volitional, but also for those that are purely instinctive. One might say: 'If you take such a position you are bound in consistency to hold that I am responsible, not only for my deliberate acts, but even for such activities as the winking of my eyelids; and this surely is a *reductio ad absurdum* of your thesis.'

This I am not prepared to acknowledge, although I agree that there is justification for forcing the issue. And I would suggest that we are more likely to discover the truth if we think at first of certain intermediate cases, instead of leaping from those that are distinctly characterized by volitional control to those where this control appears to be entirely lacking, as in the case of the winking eyelid. When we do so we find that, while the average man does not often apply responsibility to cases of instinctive activity that seem beyond control, he sometimes does. We think of the coward, who flees for his life when a grizzly pounces upon him and his companion, as responsible for the death of the man he deserts; although the coward would without doubt say that his act of running was purely instinctive and quite beyond his control. So again we apply responsibility to the low negro who commits rape; although, if he were intelligent enough, he would without doubt claim that he was overwhelmed by uncontrollable instinctive passion.

Cases of this nature show that we do in fact apply responsibility to certain instinctive acts determined by heredity; and an effective objection cannot be made to the view that responsibility must apply to all forms of activity, whether volitional or instinctive, unless some radical distinction can be made between such cases and the extreme case of the winking eyelids. But no such distinction can be found; and the point I would make is greatly strengthened by the fact that few if any of us hesitate to accept

responsibility for instinctive acts if the results are looked upon as praiseworthy. In fact it appears that men disclaim responsibility for their instinctive acts only in case they are ashamed of them; or where, as in the case of the winking eyelid, they are unaware of them.

The main basis of the difficulty we have in accepting responsibility for our instinctive acts is found in the confusion between the conceptions of accountability and of responsibility spoken of above. You are not to be held accountable for the winking of your eyelids, and therefore you without justification say you are not responsible for this winking.

But this difficulty is also partly due to our failure to realize that these instinctive acts have much to do with the nature of a man's character. So far as they are common to all men, as they are in the case of the winking eyelid, they merely go to make part of a broad background against which appear the differentiations which make the characters of different men distinctive. But we are compelled to agree that they are essential elements in the determination of this character as soon as we note that they are held to contribute to its special nature, and are thought to involve the man's responsibility, or whenever they are abnormally developed or undeveloped and thus appear important in making him a distinctive individual. The man whose instinctive sexual passions are abnormally developed is thereby given a special character which is thought to involve his responsibility. The man whose instinctive digestive activities do not function properly gains a special type of character in extreme depression of spirits, and is generally thought of as responsible for the acts attendant upon this condition of morbid melancholy.

The conception of responsibility is based upon the fact that each act of a man, of every kind, has its part in the making of his character as it exists after the act, and therefore goes to determine what his future acts will be. As it is his whole character that is involved with his responsibility, all of his instinctive acts,—even his eyelid activities,—must be taken into account, *so far as they make his character distinctive as that of a special individual.* But evidently although such instinctive activities as those of

the winking eyelid have something to say as to the nature of the character of any individual man, they as evidently are of indefinitely small importance in relation to his distinctive individuality, and may therefore in practice be entirely overlooked in our judgment as to the application of responsibility; as indeed they usually are.

11. But, after all, it may be asked, if we are beset by difficulties in determining the propriety of punishment, and the justification for the attribution of guilt, in connection with our assumption that there are varying grades of responsibility, and even cases where a man is totally irresponsible; do we gain anything by adopting the thesis you suggest? Will not all these difficulties remain with us in another form, even if we agree that there is no such thing as irresponsibility?

That the problems which now confront us would remain cannot be doubted. On the other hand, it seems clear that we should be prepared to treat them in a more intelligent manner than is possible so long as we claim the right to evade their solution by falling back upon the elusive distinction between responsibility and irresponsibility, and the illusive assumption of irresponsibility.

Problems in relation to the attribution of guilt would still present themselves, but they would cease to extend beyond the determination of fact. We should still have difficulties in deciding whether a man foresaw the evil results of his act, and carried it to fruition volitionally, and was therefore accountable for it, and hence guilty; but such difficulties would be more easily solved if we faced them, than if we confused them, as we now do, with questions as to his responsibility for his act.

Problems in relation to punishment would still remain; but in regard to them all questions as to responsibility would be seen to be irrelevant, and their solution would be sought by methods which could be closely scrutinized, and subjected to rational treatment. For having become convinced that a man was accountable for a given evil act, and hence guilty, our judgment as to the propriety of his punishment would be determined by reference to clearly defined principles. We should not be

tempted, as we now are in our questionings as to responsibility, to overlook the fact that punishment can only be justified, and is fully justified, if it appears to be likely to lead to results of benefit to individual members of the community, or to the community at large; of course including under these benefits such salutary effects as we may hope to produce in the criminal himself considered as a constituent member of the community.

We should thus find ground for the discipline of the destructive child who is innocent of evil intent; as well as for the punishment of those whom we hold to have been culpably negligent. For, in the one case as in the other, without any reference whatever to the question of responsibility, we should aim to warn the individual against certain harmful activities the evil of which he would not otherwise realize.

We should also avoid all those futile discussions which finally lead us to refrain from punishing a clearly proven murderer who is held to be irresponsible; for we should then be able to justify his punishment on the ground that it is necessary to the protection of the community.

On the other hand, if all questions of responsibility were treated as irrelevant in relation to the attribution of guilt and the administering of punishment, we should find warrant for leniency when we discover that the man who has been guilty of crime gives full evidence of complete reformation; and we should not be tempted to insist upon the punishment of a man for a serious crime which had not been discovered until long years after its commission, provided it appeared that during the interval he had led an exemplary life.

12. Turning to the special problems which have appeared in the course of our discussion, we may note at the start that, if we adopt the view I am maintaining, we avoid the difficulty connected with the futile attempt to draw a line of distinction between responsibility and irresponsibility. Differences of opinion as to the responsibility of the child would thus disappear; for we should hold that the child is responsible from birth; and should explain to those who are repelled by such a view that this repulsion arises merely because they have become so completely

accustomed to think of guilt and punishment as necessarily correlated with responsibility. The disgraceful wrangles in our courts as to the sanity or insanity of the murderer would also cease; for if no man can ever be irresponsible, then we must agree that the murderer was responsible, whether we show him to have been what we, for our convenience, call sane or insane. The problem laid before the courts would then be one in connection with which questions as to responsibility and irresponsibility, sanity and insanity, would evidently be quite irrelevant. The jury would be asked merely to determine questions of fact as to the commission of the crime and the intention of the criminal. These being settled, it would remain to determine whether the criminal is, or is not, a person of weak intelligence and self-control; and whether his act was due to an unusual temptation which is not likely to be repeated. It would then be a relatively simple matter to decide upon the best mode of procedure looking to the protection and advancement of the community, or to the reform of the criminal as a member of the community.

13. In closing we may consider one of the difficulties met with in connection with the view that a necessary correlation exists between responsibility and punishment, which has led to the current notion that, if punishment is entirely remitted in the granting of full forgiveness, all burden, not only of guilt, but also of responsibility, is removed; a notion which is of course unwarranted under the view I am maintaining. For no remission of punishment can take from the fact that the man's present character is what it is partly because of his sinful act of the past; and this means that his responsibility for that act remains, notwithstanding the forgiveness. This, however, is entirely lost sight of by the average reformer, and by the average criminal to whom forgiveness is granted; and in the feeling that all responsibility for his past sinful act is obliterated when he is forgiven we have one of the greatest difficulties connected with the regeneration of the criminal who tends to become a backslider. For the entertainment of this notion leads the culprit to overlook the fact that there is imminent danger that the characteristics of his past self which led to his crime may again become dominant.

No one will question the fact that it is of the greatest value to the repentant man to feel that in the forgiveness which follows repentance the burden of sin is cast off; this value being due to the fact that in connection with it the repentant man is given courage to lead a new and better life. But if this is held to carry with it a removal of all responsibility for the past sinful act, it clearly tends to place the reformed man off his guard, and is often instrumental in producing a relapse into his old evil ways.

But all the courage he gains in the struggle toward a better life is given in the recognition of forgiveness; and if it were impressed upon him that responsibility remains, notwithstanding that forgiveness has been granted, he would realize that he still holds in his nature the capacities which in the past led to the evil act, and would be more likely to remain constantly on his guard lest his old self might again gain the mastery.

HENRY RUTGERS MARSHALL.

PRAGMATISM AND TRUTH.[1] (II.)

FOLLOWING the example of Socrates, who conceived his social function to be that of a midwife, I endeavored in my former lecture to perform this service for pragmatism. Pragmatism holds that the world as conceived by natural science is the expression of human needs. The pragmatism of Dewey and Moore, called instrumentalism, teaches that the conceptions of science are so many instruments for the acquisition of worldly goods. My criticism of the theory endeavored to show that our deepest needs, even in making a practical use of nature, are for intercourse with a fellow; that these needs are implied in the very fact of treating nature as a mechanism; and therefore that pragmatism in its ultimate significance stands for the interpretation of nature from the standpoint of our human motives—in other words, for humanism. At the close of our argument, however, we faced the problem of making a humanistic philosophy true. What if the facts refuse to respond to our needs? May we then simply dismiss any such rebellious item from the world of facts? That, I should hold, in common with most of the critics of pragmatism, is to create an arbitrary distinction between truth and fiction and to make truth a matter of caprice. On the other hand, how may we say that science is both a representation of an independent reality and a fulfilment of our needs—how without assuming a miraculous coincidence between the world and our needs? If truth is always being made, how can it be independently true? These are the questions to be considered in the present lecture.

In the last lecture I pointed out that the founder of the humanistic philosophy was Kant. We shall therefore do well to ask how this same problem presented itself to Kant; and we shall see that in the most important points the problem has not

[1] The second of two lectures on pragmatism given before the Philosophical Union at the University of California on December 5 and 12, 1913. The first lecture was printed in the PHILOSOPHICAL REVIEW for July, 1914.

changed from Kant to the present day. The fundamental question, let us remember, is this: How can I, the knowing person, know an object which is other than myself? Now, Kant's humanism consisted in affirming that I can know nothing except in my own way; nothing can be real for me which does not satisfy my criterion of reality. How, then, shall we adjust the rights of the criterion with those of the reality itself? Kant answered this question by a reconstruction of the ancient Aristotelian distinction of form and matter. The distinction is in general a familiar one. Even our scientific friends are disposed to admit that, while experience contributes the material of facts, it is the scientist who builds them into the form of laws. But Kant's view was not quite so simple as this. According to him the forming process was at work in the very reception of the facts. Positive science assumes that the facts are furnished ready-ordered in relations of space and time, and that the work of the scientist is confined to the determination of cause and effect. According to Kant the scientist is responsible for both processes. That is to say, Kant distinguishes two stages of form, the forms of perception, space and time, and the forms of understanding, or of scientific reason. The real world, the world of things in themselves, is in neither space nor time. It is we who give it a spatial or temporal character in the act of taking it. If, following James, we venture to speak of the "Kantian machine-shop," we shall say that in the factory of science as conceived by Kant, the material supplied by nature is met at the very door by a machine which converts it into an order of facts in space and time. From the space-and-time department the facts, now empirically ordered, are passed to the understanding-room to be reconstructed into an order, let us say, of cause and effect; or, in other words, to be transformed from mere perception of fact into knowledge of an objective world. This is a very summary statement; but it may be sufficient to suggest how, in Kant's view, the knower handles the known.

But now we face the question, How is the knower so fortunate as to find a material that he can handle? With this question we are in the midst of Kant's difficulties—difficulties which seem to

have made his thinking ever uneasy and in the solution of which he was never quite clear. As formulated by Kant, the problem of scientific knowledge is to explain how we can make predictions which are afterwards verified. In 1846, after many years of work on the part of himself and of others, Leverrier calculated that an unseen planet, afterwards named Neptune, must exist at a certain spot in the heavens, and the astronomers at Berlin, having been notified, directed their telescope to that spot and verified the calculation. How could Leverrier expect that his calculation would be verified? This is Kant's question, to which in his complicated and repeated discussions of the problem he seems to offer two different answers. His first and clearest answer is that such a calculation is bound to be verified because the calculator had the conditions of verification all in his own hands. For the ground of the prediction, we must remember, was the form —in other words, the assumption—of an universal law of cause and effect. If the observation failed to verify the prediction it could be put down as false, on the ground that such an observation was opposed to the law of cause and effect; that no planet existed at the given point in the heavens was simply not a fact. Kant's first answer, then, is this: the knower procures verification for his prediction, or hypothesis, by selecting from the mass of experience the items that would verify and treating only these as facts. In this answer verification is procured by selection.

Now, while 'selection' may explain how our predictions are guarded against disproof, it fails to explain how we happen to get the facts that will positively verify. If I step into the hatter's and ask for a certain size of hat, there is nothing strange in the fact that I find it. But it would be indeed strange if I could step into a photograph gallery and find a ready-made photograph of myself. Now, the facts required by science for purposes of verification are like photographs rather than like hats—highly particularized facts. Science is a finely articulated system, in which the facts, if they are to fit at all, must fit exactly. A planet discovered somewhere in the region of the point indicated would, strictly speaking, verify nothing; at best it could only suggest an error in calculation. How, then, does it happen

that even by selection science is able to find the fact that fits? At this point we are referred to Kant's second answer. In the first answer his facts were hard and served only as a basis for selection; in the second they are soft and plastic. Now he tells us that the scientific understanding finds material suited to its purpose because the forms of perception—the forms that put the material into an order of space and time—have already moulded the facts for just this purpose.[1] In other words, the original material as it first reaches the mind is so indefinitely plastic as to be available for any categories whatsoever. I need not carry the point further. Standing before a block of marble Michael Angelo exclaimed, "I see an angel in the marble." Of course he might just as well have seen a devil. In like manner, according to Kant's second answer—and James gives the same answer—the scientist sees a system in the world. But his system has just the same measure of truth as Michael Angelo's angel.

And so Kant leaves us the problem: if the facts of the world are hard, how does it happen that science is able to satisfy its needs? But if the facts of the world are soft, does not the scientist really create a world of science?

I have put the question in this form to call your attention to the fact that the problem of the interpretation of science as conceived by Kant is still the problem that confronts us to-day. Some years ago M. Le Roy raised the question, Does the scientist create science? And Poincaré's *Science and Hypothesis*, the most brilliant and original contribution in recent years to the theory of science, is an attempt to answer his question. No one who follows Poincaré's argument and notes the difficulties into which he has fallen can fail to see that it is Kant's problem again, only at a more advanced stage. The main difference is that in the later discussion Kant's form and matter are replaced by hypothesis and fact. A clearer psychology, a psychology enlightened by the conception of evolution, has shown that we do not approach our world with

[1] See Kant's reply to Eberhard's criticism of the *Critique of Pure Reason*, quoted and translated by Caird in his *Critical Philosophy of Kant*, I, 357. Here Kant states that the *Critique of Pure Reason* asserted a pre-established harmony between sensibility and understanding.

a set of fixed *a priori* forms, but rather that the work of the scientist is a never-ending activity of forming and reforming hypotheses. It is now reasonably clear that an hypothesis of some sort is represented in every statement of fact. For the matter of that, some particular hypothesis of cause and effect is implied in any ordering of facts in time. Men of science sometimes tell us that an order of cause and effect is given with the facts. But you have only to consult a day's experience to see that only in the fewest of that day's happenings do you perceive either cause or effect. Most of them pass without raising the question. Others are of the sort in which you hear your door-bell ring but see no one press the button. You may take the trouble to ascertain from your visitor that he really did press the button; but then you make use of an hypothesis to put his experience in the same order as your own. Often you experience the effect before you experience the cause. But in most cases the cause, or the effect, is simply inferred. When you do experience both it is because your mind is definitely prepared to expect a specific effect—as when you press the button at your neighbor's door and listen for the sound of the bell. I could carry the analysis much further. But the last example will be sufficient to mark the point. For the main difference between scientific investigation and the observations of ordinary life lies only in this: that the scientist makes a more deliberate search for his facts and makes his search with a more definitely formed hypothesis of what he is to expect. Yet at the same time he is suspicious of facts that are discovered as the result of expectation. How, then, are we to conceive the relation between the scientist and his facts—or better, between the scientist and his object? What is it that distinguishes truth from an illusion of expectation and yet responds to the expectation? This is our problem.

I may begin, then, by announcing that, in the treatment of the problem, we shall put the natural scientist and his object in the background and study their relations in the light of what at first glance appears to be a totally different situation, namely, the personal relation in which one man deals with another. We shall see, I think, that the same logic rules the two situations.

But first I must say a word or two to justify this mode of procedure. And first of all I wish to call your attention to the fact that the discussion of knowledge is beset throughout by the crudest sort of metaphor. Not that we can dispense with metaphor. But it should seem that the philosopher, at least, might be able to handle his metaphors critically, and that he, of all persons, should not forget that his choice of metaphor indicates infallibly his attitude towards his object. The figures applied to knowledge seem to me to be almost without exception vulgar; and intellectually vulgar. Kant's exposition of the relations of form and matter is a constant struggle to escape the consequences of supposing that the human mind is literally a mould into which experience is being poured. At the same time he is endeavoring to see how a mould can handle a solid and hard fact. More, but not much more, refined is the metaphor implied in holding that the relation of knowledge and fact is a relation of 'one to one correspondence.' Mr. Bertrand Russell reveals the figure when he tells us that this is the sort of correspondence which a catalogue bears to the things catalogued. The scientist uses the same figure when he speaks of nature as 'a great storehouse of facts'—in other words, as a huge library in which each book has its eternally determined place upon the shelves and of which knowledge is a card-catalogue, a 'one to one correspondence.' Such a correspondence may have various forms; the facts may be catalogued for various needs. But so long as the facts remain hard, eternal, and unalterable, it is always a matter of question whether a given need can be satisfied by even the most ingenious arrangement of the catalogue, and nothing short of a miracle when the needs are as fastidious as those of exact science. In the meantime we do maintain an even finer correspondence with our fellow-man; and yet it is only a caricature to call him either a storehouse of facts or a card-catalogue of ideas.

This leads me to a second observation. Our post-Kantian psychology has dispensed with the Kantian moulds and discarded the Kantian machine-shop. It has even here and there suggested that science is an activity of persons. But on the side of the object it has preferred to stick to facts that seem distinctively

hard. When you ask the philosopher for a concrete illustration of the process of knowing, almost invariably he presents you with the case of knowing an inanimate object—preferably a table or a chair; something objective and 'solid.' At best he will compromise in favor of a green tree. This sort of knowing he conceives to be typically 'simple'; and from this sort of knowing he derives his ideas regarding knowledge in general. Now we have just noted that the apparent hardness of these natural facts is the source of all the difficulty. And in the meantime we are not limited in our knowing to the facts that are hard. For the truth is that a great part of our knowledge, and perhaps the most interesting part, is occupied with such relatively flexible and approachable facts as our fellow-men. Let us not forget that, whether or not we love our fellows, we do know them. And perhaps we know them much more intimately than we know the tables and chairs. At any rate, I think that this field of knowledge is sufficiently interesting, and sufficiently unexplored, to warrant the question whether a study of the process of knowing our fellows may not throw a new light upon our knowledge of nature.

But this introduces a third observation. For as soon as we speak of knowing our fellows, we are confronted with the vast activities of the so-called 'social' sciences, anthropology, psychology, sociology, economics, all of which purport to deal with our fellows, and among which economics in particular would seem to rank, in mathematical exactness, with the science of physics. And at first glance this comparison seems to tell us that the knowing of our fellow-man makes no difference in the process of knowing and throws no new light upon the relation between the scientist and his object. For there is perhaps none of the sciences which claims to view its object with so sublime a detachment, so complete a divorce between theoretical truth and practical desire, as the science of economics. Among those who deal with the problem of human life no one surpasses the economist in asserting that our conduct is regulated by laws which bid defiance to personal desire. In other words, in economics the object is as hard a fact as it is in physics.

This, however, would seem only to prove my point, namely, that knowledge of our fellows is a higher grade of knowledge. For the truth is that the economist is dealing specifically with those men whom, relatively speaking, he does not know; or, to state the point differently, he is describing the conduct of men in those relations in which they know one another least intimately. In gathering his facts about the world of commerce, the economist prefers to assign a secondary rôle to personal acquaintance and observation in favor of economic statistics. His economic laws describe the conduct, not of Peter or Paul—not of any real or particular person, but only of the average man,—who is always the distant man. For it would never occur to you to conduct a statistical inquiry or to consult a scientific law, to discover whether your wife liked her roast-beef rare or well-done. Nor, in a transaction with a friend concerning a horse or a motor-car, would you care much about the market-prices; the main question would be whether the bargain was mutually satisfactory. But the economist is not interested in a transaction purely personal, whether it be a 'friendly transaction between gentlemen' or primitive barter. It must never be forgotten that economics is both logically and historically the science of *modern* commerce; of commerce on a large scale, in which the ultimate producer and the ultimate consumer are widely separated. This fact of distance is directly responsible both for the 'scientific' aspect of commercial transactions and for the impersonal character of economic science. The economist describes the distant man. And the economic man, whose actions are determined by economic laws, is hardly more of a person than the billiard-balls which move in accordance with the laws of mechanics. At best we can say that he holds a half-way position between a person and a thing. I need hardly state the implication. If our human fellows tend to become hard and impersonal facts in proportion as they are distantly known—in proportion as they are known, not as Peter or Paul, but simply as capital or labor, demand or supply—may we not suppose that the impersonal and very hard facts of the physical world are connected with their being still more distantly known? And then must we not

say that the true type or example of knowing is to be found where one person joins hands—or joins issues, as the case may be—with another and deals with him face to face? At any rate, I propose to examine this personal relation as a type, let us remember, of knowing in general.

Among the motives implied in the personal relation, I hold that an indispensably important motive is that of satisfying yourself. In terms of pragmatism, this is the need or the self-interest of the knower. I am aware that the doctrine is unfashionable; and that the conventional view is that which bids us sacrifice ourselves for the larger good of others. Virtue, which formerly stood for a willingness to be damned for the glory of God, still asks us to be damned for the glory of society. Yet, even from among the most insistent advocates of self-sacrifice, I could summon a cloud of witnesses. Even so 'disinterested' a moralist as Kant finds it necessary to affirm that no moral law can be binding upon me which does not satisfy myself. Every theory of moral obligation refers to some kind of self-interest, however unsubstantial. If God has nothing for me, then I can have no obligation towards him. If my fellow has nothing to say to me, then I can have nothing to say to him. If he cannot interest me, I cannot know him—there is no basis for a personal relation.

But now, just because I am bound to satisfy myself, it is indispensably important that I should satisfy my fellow; certainly the fellow from whom I expect a service. I cannot expect him to serve me unless I offer him an inducement. Again, I am aware that many persons will claim that this is quite unnecessary; that I may compel him or deceive him into serving me while leaving his own interests out of consideration. But I think that this view fails to consider the conditions of getting the best that your fellow has to give. From the greater number of our fellows we cannot expect to get the best. To get their best we should have to know them well; and our powers of attention and of imagination, our capacity for life itself is too limited for the task. And if we do not deliberately deceive or coerce them, we at least cheerfully profit by their misfortunes; when a merchant has

overestimated the market we are ready to buy below cost. But this is all in the direction of the distant economic world. In the world of personal relations it is still true that when I set out deliberately to cultivate one of my fellows and to procure for myself the best that he has to give, I can only enjoy his best by a careful consideration of his needs and by doing my best to satisfy him.

This gives us the terms of our problem. In any statement of the situation there are two demands to satisfy, my own and those of my other. In the scientific situation there are two similar terms: the scientist's demand for intelligibility, and his obligation to satisfy the object. Nothing will solve the problem which fails to fulfil both demands. Any mere compromise, however justified by the necessities of immediate action, will fall just so far short of truth. By what process, then, is the solution to be reached? Looking once more at the personal relation, we may see that the ordinary process of solution—and I shall call this the logical and moral process—is a process of bargaining or, if you please, of negotiation. And again I expect to encounter the objection that bargaining is the method of small minds whose object is to get the best of one another. But this, I should say, is the bargaining of the mean and stupid whose imagination is too torpid to demand an exchange of the best that they have to give. Or perhaps it refers to an economic situation in which the only question is a question of price. So far as this is the case there is really no opportunity for a bargain. Bargaining presupposes the possibility of receiving from your fellow an alternative proposition in which the demands are, not necessarily lower in amount, but different in kind; in which, for example, I refuse to give you my horse for your cow but may offer you a few sheep. This opens the way for further discussion. And when we look at the matter in this light we see that the conception of a bargain applies to all of our personal relations, from the most material to the most spiritual; and further that a truly satisfactory bargain, in which the demands of both sides are finally fulfilled, is both a triumph of intelligence and a work of art. But truth is precisely such a bargain. When, after a process of experimenta-

tion, you can say, 'This is the positive fact; and this is, moreover, just the fact that my hypothesis demands'—then you have the perfection of truth.

Suppose, then, that you have begun by making a demand upon your neighbor, and suppose that your demand has been flatly refused. At this stage you are confronted with what we may call the brute fact. You are in the case of the scientist whose hypothesis has been blankly contradicted. But in dealing with your human fellow—unless he be an economic fellow, a merchant whose price is fixed—you never accept an unwelcome fact as finally and absolutely 'hard.' For such a fact is wholly unsubstantial and characterless apart from its motive or meaning. To refuse your son the price of a bicycle may have any of a dozen meanings, from a careful regard for your own pocket-book to a fear of his breaking his neck; and a properly alert lad would treat the refusal only as an invitation to 'try it again.'

Hence, you try it again. But here I may remark that, except in the economic world, where prices are fixed, your first offer is not likely to encounter an absolutely flat refusal. It is more likely, for example, that an invitation to luncheon will be declined with the statement from your friend that his work will not permit him to accept an invitation for the middle of the day. Now, if you were not yourself a working man, the statement would excite a feeling of wonder; as if a man should tell you that he never thought of sleeping at night; or the sort of wonder with which astronomers first regarded the spots on the sun. As it is, the statement enables you to interpret the refusal; and at the same time his refusal ceases to be an inflexibly hard fact and becomes a suggestion of a counter-offer: perhaps he would be glad to come to an evening dinner. Or, if this is impossible, then, better still, perhaps he would join you for a Sunday in the country. I need not carry the illustration further. In more important matters a personal negotiation may assume the dimensions of an extended scientific investigation, even with all the advantages afforded by ready communication. What I wish to note here is that the logic of the two processes is the same. The scientific method of trial and error is only another case of negotiation.

But in the personal relation the possibility of a new trial, after a first trial has resulted in error, depends wholly upon this: that you may interpret your failure, not as a hard fact, but as a new suggestion, because of the light afforded by your own motives. This important point I shall recall later.

Perhaps you may object that all of this refers to practical life rather than to knowledge, to ethics rather than to logic. But one of the great advantages of this personal relation is that it so clearly illustrates the pragmatist's doctrine of the identity of doing and knowing. The process of bargaining seems at first glance to be only a crossing of swords or a trial of strength; but a trial of strength between intelligent men is only another name for the process whereby they arrive at a sympathetic understanding and mutual independence. This trial of strength is the very life of the process even in theoretical knowing. It is no mere accident of literary fashion which puts Plato's philosophy in the form of dialogue; nor does mere imitation account for the fact that others have vainly tried to follow him. The dialogue is an attempt to present what may properly be called the living truth, or truth in the making; and the art of dialogue is just as fine an art as that of presenting a living form upon canvas. The getting of truth, in other words, is a process of conversation, of question and answer; or, if you please, of dialectics. Mere reading of a book will never give you the ideas of the author. You must have a question to ask and a position to defend if you are even to read him. But when you have put your question, then the reading becomes a process of conversation. The first question brings out an answer and the answer a new question, and so it goes, back and forth, until at last you are able to say where you and your author stand with relation to one another—and the satisfactory determination of this point is truth.

With this personal relation now before us, let us note how the logic of the relation fulfils the demands both of the pragmatic theory that truth is always being made and of the realistic theory that truth is independent. First, you must have noted that in the personal relation all is being made—not only the agreement

which constitutes the truth, but the terms between which the agreement is formed, the knower as well as the object of his knowledge. Only in the process of making your object clear do you bring to clearness the needs and demands for which you are ready to stand. In no other way can you arrive at this knowledge of yourself. Suppose that some one asks me, Are you a realist? How do I know if I have never seen a realist? Let me make the acquaintance of Mr. Russell, Mr. George Moore, Mr. Perry, Mr. Montague, or perhaps of Mr. Santayana, and then I shall hope to tell you both whether I am a realist and what kind of a realist I am.

Yet in any case I shall try to be an independent realist. For once more I may remind you that the final agreement which we call truth is no mere 'adjustment,' no mere compromise effected by rounding the corners of a square peg to make it fitter for a round hole and at the same time squaring somewhat the shape of the hole. So far as the agreement is a matter of compromise, thus far is it false. And this we must hold to the extent of admitting that truth in its perfection is rarely or never attained. It may indeed be said, then, that in entering a negotiation I cannot yet say precisely what I want; that, for example, I cannot choose my gloves until I have tried them on. It is none the less true that the gloves that I choose are the gloves that *I* want, and even, if you please, the gloves that I set out to buy. The realism that I adopt is a realism defined after a process of objective investigation. To me the whole question of realism may be more or less new. But it is not my realism unless it reveals itself as the philosophy which I have all the while been seeking. In a word, then, there is no truth unless each party to the transaction remains true to himself. In a satisfactory agreement both the knower and the object must be independent beings.

And since the independence is mutual, let us not forget to mark the independent object. In this personal relation truth is being made; but if I am not made by the object of my knowledge, neither is the object of my knowledge made by me. To Walter Pater, Plato is a lover of beauty, to Mr. Russell he is an abstract realist, to Professor Paul Shorey a man of critical common sense, like

John Stuart Mill. Plato may (or may not) be any or all of these; and it is certain that Plato has given no finally consistent response to all ways of taking him. Nevertheless, amidst all the variety of response there is a certain unity of personality which is Plato's, and which is not made by the way he is taken. Granting that every fact about a man is a function of the demands made upon him, it is still true that throughout the widest variety of replies he may be personally consistent. He may even realize the Kantian ideal of a consistency equal to that of the law of gravitation. So far as he shows any self-consistency whatever, he is an independent being.

This brings us to the heart of the problem,—the problem of truth, which, as I have pointed out, is the problem of Kant, of the pragmatists, and of the contemporary logic of science. How can there be a relation of agreement between independent beings? How can truth satisfy human needs and yet have an independent value? How can the work of science be creative and yet a true account of the world? My answer is that the problem is insoluble if the world is presented to us in the form of absolute and hard facts; it is insoluble if we may not interpret the facts as expressions of *motives* resembling our own.

I have pointed out that the process of bargaining, or negotiation, by which you come to terms with your fellow, is paralleled in scientific method by the process of trial and error. But the scientific method leaves one important point obscure, namely, when your first trial has resulted in error, or failure, how do you set about trying it again? Upon what ground do you expect better results from another hypothesis, and upon what will a correction of your hypothesis be based? So far as I can see, no answer can be given to this question if the fact that repulsed the first hypothesis was absolutely hard. In that case there is nothing more to be said, and any new hypothesis will be simply a leap in the dark. And yet, in the practice of scientific method new hypotheses are being constantly suggested which come ever nearer the truth. How can this be? In the personal relation the point is quite clear. When your first offer is declined you follow it with a second and better offer which is suggested by

your neighbor's reply; but the reply suggests nothing whatever except as it may be interpreted through a sympathetic exercise of your own imagination; except, in other words, as you can put yourself in his place. Or again, except as his behavior may be assumed to be, not a set of hard facts, but the expression of motives akin to your own. This is the assumption that succeeds in the knowing of persons. Must we not suppose that, in more obscure fashion, it is the same assumption that succeeds in the field of natural science? If we may not interpret facts by motives then what ground have we for refusing to accept any negative result as final?

If we put the question to an empirical scientist, he will doubtless tell us that his method of getting around a fact is to seek for its cause; and that the cause is discovered by recalling the circumstances by which the fact was attended in past experience. These circumstances supply the suggestion for a new hypothesis. But any attempt to put the method into practice will show that this is more easily said than done. Let us apply it to the personal relation. Suppose that A has declined my invitation to luncheon and that he has done so once or twice before. What in each case were the attendant circumstances? The moment you ask the question you discover that the attendant circumstances were nothing less than the whole sum of activities in the universe at those moments; and further, that, even within your own experience of the universe at those moments, the sum of attendant circumstances was inconceivably vast. It may be, for example, that when A now declines your invitation he is resting the weight of his body mainly upon his right foot. Is it worth while to ask whether this circumstance was common to all his refusals and would therefore explain them? The mere question is sufficient to show that an eternity of statistical investigation unillumined by any suggestion of motive will hardly give you the truth. The empiricist himself will admit that investigation must be guided by a suggestion of probable cause or effect. But what is a probable cause? From an impersonal standpoint one cause is as probable as another. Viewing the universe as a plurality of facts, it is neither probable nor improbable that the sun will

rise tomorrow. An assertion of probability means that you are interpreting nature in the light of your own point of view, as a coherently motived activity. A probable cause will then be a cause that renders a given effect humanly intelligible.

The time is too short for any really adequate discussion of the problem. I shall therefore devote the few minutes remaining at my disposal to what seems to me to be the central question, namely, whether in the logic of science there is any justification for the absolute and hard fact. Remember that I do not deny the existence of facts. A fact, however, as I understand it, is a term of agreement between a knower and his object, an element of achieved truth. Such a fact is a function of the object's being known; it cannot be said to exist before the object is known, just as a question cannot be said to be answered until it has been asked. The facts that I wish to question are those implied in the conception that nature is 'a storehouse of facts'—facts which are supposed not only to exist before they are known but to remain unaltered by the process of knowing.

Suppose we ask why the man of science thinks it necessary to hold that the facts of nature are all 'there,' eternally formed and waiting only to be discovered. The answer is obvious. Science must stand for truth rather than fiction; hence the world that is known must be a world of independent beings. But your fellow-man is an independent being; he is independent because, and so far as, his responses to the various demands made upon him are marked by a personal self-consistency. Does scientific truth require any other sort of independence than the independence that you have of me? Yet your fellow-man is in no sense a storehouse of facts. He is not a card-catalogue of ready answers to all possible questions. If that were the case, we should have to wonder how it happens that he is ready for so many questions —just as we do wonder when we find a man whose mind seems to be made up in advance on all possible points. Our wonder shows that we do not expect him to have his answers ready made. In the case of your fellow, then, the facts are all created; co-operatively created; created by him in his reply, created by you in your formulation of the question. In a word, they are

not facts, but *responses*. Now, in just the same sense are the facts of science responses; they are created by nature in reply to your hypothesis; and nature, like your fellow, is an independent being, or, better perhaps, a society of independent beings.

Upon what ground may it be affirmed that in nature the facts are merely discovered? The man of fact will doubtless tell you that whenever he approaches nature in a given way he gets always the same result—the same fact. By this he means that to obtain the same facts from repeated experiments proves that the facts are always there. But of course it proves nothing of the kind. Apply the test to your fellow: on Wednesday he is a realist; on Thursday he replies, 'Yes, I am still a realist'; yet it does not follow from this that he has dreamed of realism all of Wednesday night. And as a matter of fact neither nature nor your fellow gives the same answer to your question on Thursday that he has given on Wednesday. Nature is not as dull a companion as some scientists would have us believe. The truth of the matter is rather that nature never repeats herself. No storm is the precise duplicate of any previous storm, no animal the duplicate of any other animal, no rock the duplicate of another rock. Search the world carefully. You will find, I think, that man the machinist is the only duplicating agent; and in matters of scientific fact, man the laboratory scientist. For in the strict, yet still not the strictest sense, facts repeat themselves only under the careful manipulation of the scientific laboratory, only in response to a carefully formulated 'hypothetical question.' In the laboratory alone is the conservation of energy an eternal and unchanging law. Yet many of your fellows are equally unchanging if you take them in the same way. All that you can assert in either case is that you get the same response in reply to the same question.

Perhaps, however, your man of science will take his stand upon the accumulation of corroborative evidence in favor of some broadly comprehensive scientific theory, such as the theory of evolution. Perhaps he will claim that the elaborateness and the nicety of the corroboration prove that the order of evolution in nature is an eternal order, irrespective of any hypothesis

suggested by man; and therefore that the facts of evolution are absolute and hard facts; in other words, that the order of nature is and can be nothing else. To this I should reply that the evidence certainly proves that nature is a process of evolution, in the sense that every one who approaches her with an evolutionary hypothesis will receive an affirmative reply. And in this sense nature is eternally a process of evolution, as she is also eternally many other things. The experiment by which Newton proved that the light of the sun is a combination of the many prismatic colors (so far as this may be said to be the point proved) would have been just as successful if it had been performed by Aristotle. But no amount of articulate coherence in the answer that nature makes to the evolutionist will prove that this is the only answer that nature has to give. It will not prove this any more than the rounded completeness of the Eroica symphony will prove that this is the only symphony that Beethoven could write. Nature might still reply with equal definiteness to some other hypothesis, not less comprehensive than the hypothesis of evolution, the meaning of which is beyond our power to grasp; and her various replies need be none the less consistent. Kant makes this point clear enough when he tells us that the system of nature according to which she is an order of space, time, and causal dependence is only one of the many ways in which nature might be taken; and the logic of the situation admits of nothing else. To claim that our human science is the only way is to commit the crass anthropomorphism of supposing that the powers of nature are limited to those of our human imagination. I have already referred to the various interpretations, all possibly true, that are made of Plato. It seems to me that a natural scientist might well allow to nature both a richer variety of attitudes and a finer consistency than we may expect of even the greatest human being.

In conclusion, I will state once more the substance of the argument. At the close of the last lecture I said that the pragmatists had steadily avoided coming to terms with the question of the independence of truth, or reality. Both they and their critics seem to have halted in the presence of the following disjunction:

either truth is determined solely by our needs—and then how shall we distinguish truth from fiction? or truth is wholly independent of our needs—and then how can it be true for us? As against this I made the claim that truth must be both the satisfaction of our needs and at the same time independent of our needs; and the present lecture was to show how this can be. The answer that I have now given amounts to this: If the facts of science are in themselves absolute and hard, then any agreement what ever between the objects of science and the mind of the scientist is nothing short of miraculous. But if the facts of science are simply the expression of underlying motives, if they are simply responses, like the facts that we get from our fellows, then, while the objects of science remain independent, we may come to agreement with them, just as we come to agreement with our fellows. And then I have endeavored to show that the facts of science are nothing but responses.

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BERGSON'S CONCEPTION OF DURATION.

THE fundamental problem of philosophy is, How is the nature of real being to be defined? To this question Bergson has offered a somewhat novel answer. This answer we are to investigate in the present paper. We shall first attempt to understand what, in general, the answer is; and then we shall proceed to an evaluation of the answer in the light of the facts on which it is based.

The opening sentence of *Creative Evolution* runs as follows: "The existence of which we are most assured and which we know best is unquestionably our own, for of every other object we have notions which may be considered external and superficial, whereas, of ourselves, our perception is internal and profound." Hence in answer to the question, What do we mean by real existence? our point of departure must be an analysis of conscious experience. Consciousness is a privileged case where we may discover the precise meaning of the word 'exist.'

One of the first characteristics that strikes us when we turn our attention to conscious existence is its mutability, its fluidity. It is constantly changing. State follows state with amazing rapidity; indeed, the various states themselves are nothing but processes which flow on with a never-ceasing rhythm. In consciousness I find nothing static. I discover "that I pass from state to state. I am warm or cold, I am merry or sad, I work or I do nothing, I look at what is around me or I think of something else. Sensations, feelings, volitions, ideas,—such are the changes into which my existence is divided and which color it in turns. I change, then, without ceasing."[1]

Now change presupposes time. It is, in fact, nothing but a temporal process. However change may be defined, it certainly cannot be defined unless time is taken into account. Apart from reference to time the attempt to define change involves a flagrant

[1] *Creative Evolution*, p. 1.

contradiction. So to be conscious, at least in the sense in which the finite individual is conscious, is just to be in time. Hence it follows that existence so far as conscious experience is concerned is essentially temporal in its nature; conscious existence means perduring from moment to moment within the stream of time. But what is time, and how does consciousness exist in the temporal stream? This is the question which we must now face and answer before we can gain much light on the problem before us.

Perhaps it is not necessary for us here to enter into any detailed consideration of the manner in which Bergson approaches his conception of duration. A mere statement of the conclusion which he reaches will suffice for our present purpose. And that conclusion is that, so far as consciousness is concerned, to exist means to *endure*, and to endure is to be a "qualitative multiplicity, with no likeness to number; an organic evolution which is yet not an increasing quantity; a pure heterogeneity within which there are no distinct qualities."[1] Duration is the stuff out of which conscious existence is made; for a conscious being, to exist is to change and to change is to endure.

Since duration is such a basic category in the Bergsonian metaphysics, it is necessary for us to examine very carefully into its nature if we would evaluate the system. With this conception stands or falls much of what Bergson has written on philosophical problems. The remaining part of this paper will be devoted to a critical examination of the conception. In the first place we shall look more carefully at the characteristics of duration upon which Bergson lays particular emphasis; and then we shall attempt to estimate the accuracy of the definition which he offers us.

The fundamental characteristic of duration, suggested in the above quotation from *Time and Free Will*, is its 'pure heterogeneity.' This characteristic Bergson emphasizes in various passages which the reader will experience no difficulty in locating. And from this pure heterogeneity follow certain other features, two of which would seem to be of crucial importance.

First of these is the fact that duration can be predicated

[1] *Time and Free Will*, p. 226.

only of a process which emerges continuously in the absolutely new. This consequence Bergson himself not only recognizes but insists upon. "The more we study the nature of time," we are told, "the more we shall comprehend that duration means invention, the creation of forms, the continual elaboration of the absolutely new."[1] In another passage he tells us that, if we plunge back into our deeper spiritual life, we find ourselves in a "duration in which the past, always moving on, is swelling unceasingly with a present that is absolutely new."[2] The same point is emphasized in many other passages both in *Creative Evolution* and in *Time and Free Will*, but it seems hardly necessary to quote them here. It is obvious that such a position is logically forced upon one who maintains that duration is pure heterogeneity: a purely heterogeneous process must perforce issue in the absolutely new.

The second consequence from the heterogeneity of duration is that the change which takes place in it is essentially unforeseeable. Before such change omniscience itself would stand helpless: what is to be the result of it could not possibly be known. This, once more, our author emphasizes. "Our personality," he says, "shoots, grows and ripens without ceasing. Each of its moments is something new added to what was before. We may go further: it is not only something new, but something unforseeable. Doubtless, my present state is explained by what is in me and by what was acting on me a moment ago. In analyzing it I should find no other elements. But even a superhuman intelligence would not have been able to foresee the simple indivisible form which gives to these purely abstract elements their concrete organization. For to foresee consists of projecting into the future what has been perceived in the past, or of imagining for a later time a new grouping, in a new order, of elements already perceived. But that which has never been perceived, and which is at the same time simple, is necessarily unforeseeable. Now such is the case with each of our states, regarded as a moment in a history that is gradually unfolding: it is simple, and it cannot

[1] *Creative Evolution*, p. 11.

[2] *Ibid.*, pp. 199–200.

have been already perceived, since it concentrates in its indivisibility all that has been perceived and what the present is adding to it besides. It is an original element of a no less original history."[1]

Duration, then, is heterogeneous. To endure means to pass on to the absolutely new and to do this in a manner that is, by its very nature, unforeseeable. "That each instant is a fresh endowment, that the new is ever up-springing, that the form just come into existence . . . could never have been foreseen . . . all this we can feel within ourselves. . . ."[2] Such, in sum, is Bergson's view of duration as his analysis of consciousness discloses its nature.

This conception of duration, Bergson feels, is strengthened by other considerations. If time is to be thought of as real, he argues, the new must be ever up-springing and the forms that arise must be essentially unforeseeable; otherwise, time is only a repetition and not in any sense a reality. His own words on this point must be quoted: "The more I consider this point, the more it seems to me that, if the future is bound to *succeed* the present instead of being given alongside of it, it is because the future is not altogether determined at the present moment, and that if the time taken up by this succession is something other than a number, if it has for the consciousness that is installed in it absolute value and reality, it is because there is unceasingly being created in it . . . something unforeseeable and new."[3] So Bergson thinks that the conception of duration on which he is insisting here is basic to the reality of time itself. Either a heterogeneous duration or unreal time is the disjunction; but if time is unreal the fundamental characteristic of consciousness is a delusion.

Despite the careful and detailed analysis of conscious experience upon which Bergson rests his conception of duration, an analysis that is very illuminating and suggestive, it seems to me that the conception as above defined is inadequate and fails to take into consideration some of the obvious features of conscious-

[1] *Op. cit.*, p. 6.
[2] *Ibid.*, p. 164.
[3] *Ibid.*, pp. 339–340.

ness. My objections to the conception are chiefly two. The first, an *a priori* objection which by some, particularly by those of the Bergsonian temperament, will be thought to be no real objection, is that the conception is by its very definition irrational. Those who remain untouched by this criticism may find the second objection better worth their consideration. And that objection is that the conception of duration as Bergson presents it is based upon a one-sided analysis of conscious experience. Let us notice each of these objections in turn.

Beginning with the *a priori* objection, I dare venture to assert that it is not very difficult to indicate the source of the irrationality of duration as above defined. A process of pure heterogeneity, in which the absolutely and wholly new is constantly arising and to which it is as constantly being added, is a process with which the intellect, by its very nature, is totally unable to deal. It is a monstrosity before which reason stands helpless and dazed. For the fundamental postulate of reason, I suppose, is that if there be evolution there must be some degree of homogeneity in it; that, if there be a process of change which is intelligible, there must of necessity run through the process an element of identity. Change which lacks this continuity, as must be the case if change takes place in pure duration, is a process which simply cannot be conceived by the intellect; it is utterly irrational. If it is understood at all it must be 'divined'; certain it is that it cannot be comprehended.[1]

On the basis of the assumption of such a heterogeneous and irrational evolution of the self, psychology and ethics take on the character of the miraculous. The past history of these sciences must be deemed a fortunate accident, and their future is full of unforeseen and unforeseeable pitfalls. If the evolution of self-consciousness is such that it is constantly issuing in the totally new, in that which is in no real sense anticipated before it becomes an actuality, then there is no guarantee in what direction the process may go; it may shoot off at any angle, run up against any sort of an obstacle, and link with the past a thoroughly

[1] Cf. Creighton, "The Notion of the Implicit in Logic," THE PHILOSOPHICAL REVIEW, Vol. XIX, p. 58.

discordant present. For the whole development is haphazard and irresponsible. How could psychology possibly deal with such an erratic process? Much more, how could ethics deal with it? Indeed, how could one individual meet another in the commonplace affairs of everyday experience? Conscious experience existing in pure duration would be of such a nature that no sort of sense, common or scientific, could hope to deal with it.

Of course, the Bergsonian retort to such an objection as we have dared to suggest here is obvious. In the first place, it would be pointed out that a connection between the past and present in duration is not only admitted but emphasized: we should undoubtedly be reminded that duration is defined as an 'organic whole,' that the past abides in the present 'actual and acting.'[1] And, in the second place, amazement would be expressed that one should be so bold as to raise the objection that duration is unintelligible, when the main purpose of the author's latest work is to show just that it is, and why it is, unintelligible. The reply, then, would be that our objection reduces, on the one hand, to a misinterpretation of the author's meaning, and, on the other, to a complaint that the author has done the very thing which above all else he desired to do.

Our rejoinder to the first part of this reply will be given below when we come to an investigation of the facts on which Bergson has based his conception of duration. So, for the present, we may pass it by. As regards the second part of the reply, of course, it must be admitted that Bergson does insist that duration is an essentially unintelligible notion, and it must also be admitted that its unintelligibility is for him one of its chief attractions. Despite this, however, I cannot but feel that the objection has real significance. The proof of the essential unintelligibility of a theory seems to me to establish a very strong presumption against its ontological value. There are doubtless many real phases of the duration of consciousness that are as yet unknown. But it is one thing to say that these are unknown, and it is altogether another thing to say that they are unknowable; between the two statements lies the whole diameter of rationality. It is

[1] *Creative Evolution*, p. 15. Other passages to the same effect are numerous.

difficult to see how, being constituted as we are, we can rest satisfied with the unintelligible: historically we have not been able to do so, and theoretically it would seem we cannot do so. The unintelligible must remain in a state of unstable equilibrium, and the theory that supports it must ever rest under the suspicion that somewhere it is seriously in error.

In this connection it is interesting and perhaps instructive to notice that Bergson presents various arguments for his conception of duration. It is such a theory, he contends, as will explain the facts of conscious existence. Duration is heterogeneous, we are informed, because each conscious state is an original element in a no less original history; hence follows its unintelligibility. But, on second thought, it seems rather odd that one must perforce present arguments in favor of a conception which is by definition unintelligible. One instinctively (should we say 'intuitively'?) feels that something is radically wrong with such procedure. And it is bootless to contend that 'intuition' gives us inside information concerning the nature of duration and that the intellect only sets forth in words for purposes of social intercourse the information thus mysteriously revealed. For it would seem that 'intuition' apart from the intellect could at most give us information concerning the mere brute fact of duration: only intelligence could discern the fact that the past in its entirety abides in the present, that the present is absolutely new, that, in short, duration possesses such and such characteristics. Duration must be handled by the intellect if it is to be thought of as anything more than a mere unutterable experience such as is a feeling of pleasure or of discomfort. But how can the intellect be expected to manipulate an unintelligible notion? There is a difficulty here that concerns something of basic importance. This something, of course, is the problem of the nature of intelligence itself, a problem which would lie beyond the limits of the present paper. Suffice it to say that the picturesque position in which Bergson here finds himself indicates that his solution of the problem is at least questionable.[1]

[1] Further discussion of this problem I hope to undertake at another time. I wish to take this opportunity, however, to record my belief that there is a whole-

We turn now to the second difficulty which we have noted in connection with this conception of duration, namely, that it is based upon an incomplete analysis of conscious experience. And here we are face to face with the fundamental weakness of the whole matter.

It will aid us in our discussion to summarize briefly Bergson's analysis of consciousness. And this can best be done in his own words. "In reality, the past is preserved by itself, automatically. In its entirety, probably, it follows us at every instant; all that we have felt, thought and willed from our earliest infancy is there, leaning over the present which is about to join it, pressing against the portals of consciousness that would fain leave it outside . . . even though we have no distinct idea of it, we feel vaguely that our past remains present to us. What are we, in fact, what is our *character*, if not the condensation of the history that we have lived from our birth—nay, even before our birth, since we bring with us pre-natal dispositions? Doubtless we think with only a small part of our past, but it is with our entire past, including the original bent of our soul, that we desire, will and act. Our past, then, as a whole, is made manifest to us

some truth implied in Bergson's contention that duration is essentially unintelligible. And that implied truth is that conscious experience cannot be adequately explained in terms of mechanical categories. If duration were intelligible in this sense, then free will, which Bergson is so anxious to save from the clutches of mechanism, would undoubtedly be out of the question and absolute determinism would hold undisputed sway in the field of moral phenomena.

But to deny that consciousness can be adequately accounted for by means of mechanical categories, to insist that one cannot predict conduct as the astronomer would predict an eclipse, is not by any means equivalent to the assertion that conduct is unintelligible. It is not inconceivable that intelligence may make use of categories other than the mechanical; in plain fact, it is obvious that intelligence does just this in the biological sciences. (See Haldane, *Mechanism, Life and Personality*, Lecture III, for an interesting and illuminating discussion of this point from the physiological standpoint.) Why, then, may it not employ non-mechanical categories in connection with the problems of conscious experience, and why may not consciousness be thoroughly intelligible in terms of such categories? If the physicist takes matter and energy as fundamental conceptions for his science, that is no reason why these are basic to ethics also; but it is also no reason why ethical phenomena are by their nature beyond the province of intelligence. We must insist upon the intelligibility of duration, else we are compelled to argue for an essentially irrational conception—which would seem to be an approach to absurdity; but we must also make use of those principles of explanation which the facts to be explained force upon us.

in its impulse; it is felt in the form of tendency, although a small part of it only is known in the form of idea."[1] Thus conscious experience is explained exclusively in terms of the past which is somehow automatically prolonged into the present; and the past which is thus prolonged into the present is simply the cumulative sum of all preceding presents in the history of the individual experience. We have, thus, a never-ceasing conjunction of the past with the present; but the past is just the old, and the present is just the new in experience. Hence the heterogeneity and unforseeability of duration.

Now I submit that this analysis of conscious experience does not take into account all of the facts. It lays the emphasis exclusively on the past: all of the work of conserving experience falls on the dynamic memory.[2] Not a word is said concerning the function of what we may term the dynamic imagination. But the imagination is, I am prone to think, as essential to consciousness as is memory. Consciousness has a forward-reaching as well as a backward-reaching aspect; and no analysis which leaves the former out of consideration can, it would seem, be called complete. Let us follow this point.

Viewing the problem from the psychological standpoint, we must say that the conscious present is experienced in the act of attention, and that the process of conscious experience consists in the series of such acts of attention. Therefore the psychological problem of consciousness, so far as its persistence in time is concerned, reduces to the problem of the attentive consciousness. Under what conditions does the attentive consciousness take place? is, thus, equivalent to the question, How is the conscious present linked with the conscious past?

In the third chapter of his very instructive book, *Attention*, Professor Pillsbury has developed at considerable length the conditions of the attentive consciousness. It is not necessary here to summarize the details of his discussion of the problem, but it is to the point to notice that among these conditions he finds it necessary to enumerate purposes, both particular and

[1] *Op. cit.*, p. 5.

[2] See *Matter and Memory*, pp. 89 ff.

general, both immediate and remote. These, he contends, as it seems to me with indisputable accuracy, are essential conditions of an act of attention. Every act of attention is the expression of a purpose, either immediate or remote, either in the form of a clearly conceived end or in the form of a sub-conscious tendency; and apart from purpose, in this sense, the attentive act can neither be understood nor explained.[1]

Illustration of this point seems hardly necessary, since the matter is so obvious once it is presented. Any ordinary case of perception is an illustration. By this time it is a fairly old story with the psychologist that perception itself is active, that a man's interests and purposes are largely instrumental in determining even what he shall observe in the world around him. And the more advanced consciousness is the more marked does this control of purposes become. We recall the famous case of Sedgwick and Darwin, who, while spending many hours in Cwm Idwal where there were glacial phenomena so conspicuous that "a house burnt down by fire did not tell its story more plainly than did this valley," failed utterly to observe these phenomena, and all because they happened to be interested in a problem which was foreign to the nature of the evidence there disclosed. And what is true of perception is true of every other form of conscious experience where attention is involved, that is to say, is true of every really efficient consciousness.

Purposes, then, are actually involved in the attentive consciousness; they are determining conditions of it. But purposes are not merely past, they are also partly future; not in the sense that they exist in the future, of course, but in the sense that they anticipate the future, and, through this anticipatory quality, control the passing 'presents' of conscious experience. And this is true whether purposes exist as clearly conceived ends or as tendencies of which we are in no sense clearly conscious. Nor should the objection be raised that this is impossible. If there is no difficulty in accepting the statement of the physiologist to the effect that a nerve-cell by acting now can control future action in which it is concerned, that its present activity does at the moment produce a future effect, there should be no difficulty

[1] In this connection see Haldane, *op. cit.*, pp. 108 ff.

in accepting the psychologists' statement that states of consciousness corresponding to these neurological processes can do the same. It is not impossible. The fact is that states of consciousness do thus influence states that are not yet, but are still to be; an unbiased examination of conscious experience forces this fact upon us.

So, from the point of view of psychological analysis, we are compelled to say that conscious existence in time cannot be explained solely in terms of organic memory; the past and the present are not the only dimensions of the temporal consciousness. Every act of attention involves purposes, and purposes are neither exclusively past nor exclusively present, nor yet partly past and partly present. In some sense, every present of consciousness is both past and future; past in so far as it is an expression of dynamic memory, and future in so far as it incorporates in itself the propulsion of anticipatory purposes and aims.

There are other and weighty considerations that point to the existence of this forward-reaching aspect of consciousness. The process of cognition itself is inexplicable apart from it. "The ends of the logical process, the demand for meaning, which is the essential nature of the logical mind, is functionally operative at every stage of development, so that each prior stage of experience, as representative of those ends, is connected through identity with the later."[1] And unless this identity between the earlier and later stages of experience be taken account of, the development of a continuous cognitive experience becomes an inexplicable mystery. A satisfactory theory of knowledge must be written in teleological terms.

Once more, the ethical consciousness points in the same direction. The fundamental characteristic of moral experience, the very spring of morality itself, namely, the feeling of moral obligation, is in the last analysis nothing but the discrepancy between the self that now is and the self that ought to be. And it is impossible to explain a moral character without consideration of purposes that are present in moments of moral decision. It may be, and doubtless frequently is the case that such purposes

[1] Creighton, *op. cit.*, p. 61. If the reader is inclined to forget that a state of consciousness is more than a mere psychic event, I would refer him to this discussion of the nature of the 'implicit.'

are not conscious in the sense that they are explicitly recognized by the agent in the moments of moral conflict and indecision; they often are, as Bergson rightly insists, hidden in the depths of the self, which on occasion, heats and blazes up with compelling power. But the all-important fact that they are present in experience, even though submerged below the surface of the stream, and that they are potent in determining the nature of the conduct that flows from them—this fact must be borne in mind by us when we come to theorize concerning the *modus operandi* of conduct. Otherwise, we are either confined to the limits of strict determinism or left to the tender mercies of a purely negative theory.

Furthermore, the very experience of duration, as duration and not a mere series of successive instants, is inexplicable if the aspect of consciousness on which we are here insisting is left out of account. The proof of this which Kant has given in the famous Transcendental Deduction of the Categories, and which has been repeated with variations by many thinkers since his day, has, so far as I am aware, not been shown to be false. How time could possibly be continuous, a qualitative succession in which each new moment of experience springs out of the past without a break, it is impossible to say unless somehow the past reaches out into the future and anticipates what it is to bring by way of addition to the present that now is. As Green has said, and has well said, "We must be on our guard against lapsing into the notion that a process *ad infinitum*, a process not relative to an end, can be a process of development at all."[1] We might add that such a process could not be a *continuous* process at all; from the standpoint of the individual living through such a process it could be only a succession of disconnected instants, and not a succession possessing real continuity experienced as such. That we may have a continuous experience in time the past and the present must be organic to each other; and this is possible only provided the principle which makes them organic involves to some degree at least the future.

If, now, all of this is true, conscious duration must be more than mere memory overflowing into the present. Duration as an

[1] *Prologomena to Ethics*, p. 126.

experienced fact is a meaningless conception, nay, is impossible, unless consciousness has a forward-reaching aspect which gives to it its continuity. Bergson himself really assumes this throughout his discussion of duration, though he is apparently unaware of the assumption. For example, in a passage already quoted he tells us that our past "is made manifest to us in its impulse," that it "is felt in the form of tendency." If meaning is put into these words, the characteristic of consciousness which Bergson has failed explicitly to take account of must be accepted; consciousness as tendency is certainly more than consciousness as past history; it involves an end. Again, we are told that duration is truly experienced by us if, when listening to a poet reading his verses, we sympathize with his thought and do not content ourselves with attending merely to the series of words in which he clothes his ideas.[1] But, though Bergson seems to think differently, it is certain to my mind that such an experience cannot be explained at all unless the memory involved in the experience has imagination operative in it. When I follow the poet's thought I certainly do more than simply remember what he has already said; my experience is obviously something more than the mere summation of the words and ideas to which the poet gives expression in the passing moments of his recital. If this were not the case it would be impossible for me to enter sympathetically into the poet's thought. Besides remembering what has preceded, I anticipate what is to come; in fact, my memory of what has preceded is vitally connected with this anticipation of what is to come, and they can be separated from each other only verbally. I hold in abeyance what I have heard in order that its meaning may be completed by what is to follow; and until the later context is supplied what I have heard is fragmentary and incoherent. Thus Bergson really assumes the point which he is anxious to deny, and he must assume it if his words are to have any meaning at all. Once more he tells us that consciousness "shoots, grows, and ripens without ceasing"; and this idea is repeated in various passages. But if the words here used are anything more than meaningless metaphors conscious experience must be in some real sense anticipatory. It might possibly

[1] *Creative Evolution*, p. 209.

'shoot' blindly (though how such promiscuous 'shooting' could be regarded as an organic development is certainly far from clear), but how it could possibly 'grow' and 'ripen' blindly it is impossible to think. The very words here used imply that consciousness is a teleological process, especially when we recall the fact that the past is to be regarded as an 'organic whole' which is 'actual and acting' in the present. In another passage duration is defined as "the continuous progress of the past which gnaws into the future and which swells as it advances."[1] But it is all-important to remark that the 'gnawing' of the past is without result and that its 'swelling' is wholly unwarranted, unless the past and the future are really somehow connected, unless the future is already in some real sense contained in the past. These passages might be paralleled by others did it seem necessary; but fortunately this does not seem to be necessary. Whether Bergson really makes the assumption we here accuse him of or whether he does not is of no special concern, except in so far as it indicates that in order to speak intelligibly concerning conscious experience teleological terms must be used. I think we must unquestionably admit as true that "for a conscious being, to exist is to change, to change is to mature, to mature is to go on creating oneself endlessly."[2] But we must also, as unquestionably it seems to me, put the emphasis explicitly upon the fact that the change is really towards some sort of 'maturity,' and that endless creation of oneself by 'maturing' is a meaningless jumble of words unless that which is 'created' is, in point of actual fact, the explication and elaboration of that which is to 'mature.'

So in answer to the reply to our objection above suggested, namely, that Bergson admits and insists upon the fact that the past in its entirety and as an 'organic whole' is active in the conscious present, we are compelled to say that this very admission is forced upon him by the facts of conscious experience and against the logic of his position, and, furthermore, that this admission logically implies that duration cannot be purely heterogeneous, that the future must also be operative in the present, and that to separate them and identify the future with

[1] *Op. cit.*, p. 4.
[2] *Ibid.*, p. 7.

the 'new' is a vicious abstraction. It is absurd and contrary to fact to say that the past is actual and acting in the present unless the present in which the past is now actual and acting is organic to that past: this Bergson rightly admits. But it is equally absurd and contrary to fact to contend that the future could ever become organic to the present, could ever so unite with the present as to make of it later an organic element within the past, unless it already is organically involved in the present and past: this Bergson wrongly refuses to admit.

We conclude, then, that the analysis upon which Bergson bases his conception of duration is an inadequate analysis. It leaves out of account that aspect of consciousness by means of which the psychologist explains any presence of conscious experience, apart from which both cognitive and ethical experience are inexplicable, and which makes even the experience of duration itself possible. This anticipatory aspect of consciousness must be included in our analysis, or one fundamental characteristic of conscious experience is neglected.

When we supply the above omission from our author's analysis, we are compelled to introduce into the definition of duration an element that is abhorrent to him. For we must define duration teleologically. It ceases to be a pure heterogeneity, and becomes the elaboration of a growing and ripening homogeneity; the past is never merely old nor is the present ever wholly new. Finite consciousness is more than a summation of entirely past experiences constantly merging into the future which is totally heterogeneous. On the contrary, it is a personal existence, which, though in time, is forward-reaching in its nature, though itself subject to never-ceasing change, is not wholly blind and undirected in its changes. One essential characteristic of it is its anticipatory nature, its tendency to become, not just anything, but *something*. The dynamic imagination is as fundamental to conscious existence as is the dynamic memory; ideals certainly play a no less significant rôle in character than habit. In fact, the latter is just the former inverted.

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THE PRAGMATISM OF PASCAL.

IF any apology were needed for discussing the philosophy of so unphilosophical a genius as Pascal it might be found in the kinship existing between him and some of the most popular leaders of present day thought. It is just this unphilosophical character of his genius that makes him an interesting figure in these days of James and Bergson and Eucken, and has brought his name again to the fore in recent years in France. Nature, instinct, feeling, the heart, life, the spirit, faith—it is these anti-intellectualistic catchwords that come oftenest from his pen, and it is to recall and reinterpret these concepts of his in the light of modern tendencies that this paper is offered. Naturally, its title is not exactly indicative of its contents but it is convenient and not too misleading. Pascal was not a pragmatist, but then neither was he technically anything else, and his thought at least has points of contact with this interesting 'ism.' Indeed, one must admit at the outset that the construction of a system from Pascal's fragmentary thoughts is impossible and that the most one can do is to interpret the spirit and tendency of his ideas.

Traditionally, Pascal is a sceptic: he is written down as such in histories of philosophy: as such he is ruthlessly described and violently denounced by Cousin. According to the latter: "Pascal breathes scepticism; he is full of it; he proclaims its principle, accepts all its consequences and pushes it at the outset to its furthest limits—the avowed contempt, and almost hatred, of all philosophy."[1] And it is easy enough to adduce passages in confirmation of such a contention. Pascal is loud in his tauntings of philosophy. "We do not esteem the whole of philosophy as worth a single hour of pains."[2] "To ridicule philosophy is truly to philosophize."[3] "What is thought? How foolish it is."[4]

[1] *Blaise Pascal*, 2d ed., *Preface.*

[2] *Pensées*, 79. The translations are from the Temple Edition of the *Pensées* which is based upon the standard text by Leon Brunschvicg.

[3] *Ibid.*, 4. [4] *Ibid.*, 365.

"The last attainment of reason is to know that there are an infinity of things that surpass it."[1] "Nothing is so in conformity with reason as this disavowal of it."[2] Or read the scornful passages in which he ridicules all human laws and institutions as products of irrational custom: "Truth this side of the Pyrenees, error that side."[3]

But over against these gibes at reason we have to set the following: "We know the truth not only by the reason, but also by the heart: it is by the heart that we know first principles, and it is in vain that reasoning, which has no part in it, tries to combat them. The Pyrrhonists, whose only object this is, strive for it in vain. We know that we do not dream, however impotent we may be to prove it by reason: this impotence proves nothing more than the feebleness of our reason, but not the uncertainty of all our knowledge, as they pretend. For the knowledge of first principles, as of space, time, movement, numbers, is as certain as any of those that our reasoning gives us. And it is on this knowledge of the heart and instinct that reason must support herself, and on this she founds her whole procedure. . . . Principles are felt, propositions are proved, and all with certainty, although in different ways. And it is as ridiculous for the reason to demand of the heart proofs of its first principles, in order to consent to them, as it would be for the heart to demand of the reason a feeling of all the propositions that it demonstrates in order to be willing to receive them. This impotence ought to serve, then, only to humble the reason, that would judge of everything, but not to combat our certainty, as if there were nothing but reason capable of instructing us. Would to God, that, on the contrary, we never had need of it, and that we knew all things by instinct and feeling. But nature has refused us this good, and she has given us, on the contrary, but very little knowledge of this kind: all other knowledge can be acquired only by reasoning."[4]

Pascal's apparently sceptical utterances must hence be interpreted in the light of these positive statements which seem to

[1] *Ibid.*, 267.
[2] *Ibid.*, 272.
[3] *Ibid.*, 294.
[4] *Ibid.*, 282.

suggest that his thunderings against reason are after all only directed against the supposed ability of man to demonstrate all truths in heaven and earth and are not inconsistent with a belief in the possession by man of truths undemonstrable but self-evident and certain. In short, he seems to be asserting the ordinary doctrine of innate ideas as the necessary presupposition of all rational demonstration. Or, in the words of his fragment, "On the Geometrical Spirit:" "In pushing our researches further and further, we arrive necessarily at primitive words which we cannot define, and at principles so clear, that we cannot find any principles more clear to prove them by. The most perfect method available to men consists . . . in not proving truths known to all persons, but in proving all others. From this method those equally err who undertake to define and prove everything, and they who neglect to do it in things which are not self-evident."[1] On the basis of these sober utterances, his tirades against reason appear as only the poetic exaggerations of the passionate religionist. But no sooner have we reached this apparently firm ground than it begins to tremble under our feet. The sceptical doubt begins to infect even the innate ideas, for Pascal admits "that we have no certainty of the truth of principles, beyond faith and revelation, except the natural conviction of them which we feel within us. Now this natural conviction is not a convincing proof of their truth, since, having no certainty, except through faith, whether man was created by a good God, by an evil demon, or by chance, it is doubtful whether the principles thus given to us are true, false, or uncertain."[2] And for this Cartesian doubt Pascal has no rational answer, since for his more logical mind the Cartesian proofs for the existence of such a benevolent and truth-guaranteeing God were not cogent. This theoretical uncertainty leads him to the approval of Pyrrhonism that arouses Cousin's triumphant disgust.

But one must not take Pascal's universals too literally. He is not accustomed to measure his words, and one must remember that his *Pensées* were not revised by him and probably not even intended for publication in their present form. They were

[1] *Opuscules.* [2] *Pensées*, 434.

primarily notes for a work of very different structure and purpose. And therefore we are not surprised to find that his approval of Pyrrhonism is elsewhere modified by decided limitations which destroy its meaning completely. "It is necessary to have these three qualities: those of the Pyrrhonist, the geometrician, and the submissive Christian: and these three agree and temper one another in doubting where it is necessary, in believing where it is necessary, and in submitting where it is necessary."[1] The truth is that Pascal's interest in philosophy is not at all theoretical, but æsthetic and practical. His questions are not, is knowledge in general possible and in what does it consist? but, what knowledge can we have of certain specific truths and in what way can belief in them be induced? Hence his complaint of knowledge touches rather its quantity than its quality, though the latter is not wholly unaffected. It is the vastness of the field of the unknown that he deplores rather than the absoluteness of its unknowability. It is true that he often enough points out the weakness of human powers but it is with instances of actual ignorance and prejudice that his pages are filled. This means, of course, that his work, so far as it has any general theoretical significance, is a contribution to the psychology of belief rather than to the logic of truth. It is the actual hindrances to the attainment of truth, especially in morals and religion, and the actual factors in inducing belief, that interest him supremely and evoke his keenest analysis. And it is his conception of these hindrances to belief that determines his central doctrine of faith.

It will be convenient, although hazardous, to state Pascal's doctrines in formal fashion, not attempting to harmonize them but merely to state them as they seem to have been held by him. This will make impossible the labelling him with any one philosophic tag, even that of the pragmatic Proteus, but it will at least make clear what he was trying to say, whether consistently or not.

In the first place, Pascal's ideal of knowledge is Cartesian. To know, in the proper sense of the term, is to possess a systematic body of rational intuitions with their necessary implications.

[1] *Ibid.*, 268. *MS.* variation.

It is necessary to remember this whenever Pascal's scepticism is in question, for the impossibility of knowledge is for him the impossibility of attaining this kind of demonstrative truth. As to the problem of what truth means, whether it is a matter of representation or something other, Pascal makes no statement. In this sense he has no suspicion of a pragmatist problem.

In the second place, as we have found, even the self-evidence of the so-called rational truths is not beyond suspicion. They are, of course, not necessary in the sense of being implied in what is already accepted, for they are not implications of anything more certain than themselves: consistency does not compel their acceptance. What is their ground, then, and why do we not doubt them? Not because we see why they are true, for there is no why, but because nature compels us. In Cartesian terms, Pascal finds that it is nature, instinct, rather than the natural light which supports the whole edifice of knowledge. We can't know that we know, but life brushes aside our hesitant doubts and forces us to take sides. "What shall man do, then, in this state? Shall he doubt of everything? Shall he doubt that he is awake if we pinch him or burn him? Shall he doubt that he doubts? Shall he doubt that he is? We cannot go so far as this; and I state it as a fact that there has never been an absolute and perfect Pyrrhonist. Nature sustains impotent reason, and prevents her from reaching this point of extravagance. Nature confounds the Pyrrhonists, and reason confounds the dogmatists. . . . You cannot avoid one of these sects, nor subsist in either."[1] Does this mean that Pascal is denying to man the possession of truth? Not at all, for he is explicitly asserting the impossibility of being a Pyrrhonist or a dogmatist. What he is insisting upon is that the determining factor in our belief in truth is not logical but practical. We have knowledge but it is attached to us by instinct and not by reason.

Thirdly, in addition to denying the logical cogency of even the abstract rational sciences, Pascal proceeds also to deny even this degree of certainty to matters of fact. He limits the field of demonstration strictly and will have nothing to do with a neces-

[1] *Ibid.*, 434.

sary, rational system of nature after the fashion of Descartes. Himself a mathematician, he recognizes the limits of his science and makes his choice for the experimental method of Galileo and his like, contributing not a little both by precept and practice to the final triumph of that method. "In physics experiment is our true master," is the moral he draws from his own experiment on the Puy de Dôme, and is the maxim which links him with the scientific rather than with the speculative school in philosophy. Accordingly, he is never weary of pointing out our ignorance of the causes and connections of things and the consequent uncertainty of human life. Experience is the ground of our expectations, and its limitations and gaps are self-evident. Its principle, as Hume was to point out later, is custom, and custom is without rational basis. "When we see an effect always taking place in the same manner, we conclude that there is a natural necessity for it, as that there will be a tomorrow, etc.; but nature often deceives us and does not bow to her own laws."[1] Pascal does not develop his empiricism or analyze the concept of causality, but there is no doubt that if he had he would have reached principles not unlike those of Hume or Balfour. If he were to be labelled at all, empiricist would be his title.

And now, taking up his doctrine of belief, we find that Pascal is a decided voluntarist. The possession of truth is a practical, rather than a logical, matter: to be determined by interest and attention, rather than by mere clarity of ideas. Merely to have an idea is not to possess truth, we must hold it against contrary ideas and make it a part of our life. Pascal does not go so far as to say that a truth to be a truth for us must be acted upon, but his attitude points in that direction. At any rate, he is convinced that pure reasoning is not the decisive factor in belief. His most direct statement is the following: "The will is one of the chief factors in belief, not that it creates belief, but because things are true or false according to the aspect in which we look at them. The will, which prefers one aspect to another, turns away the mind from considering the qualities of all that it does not want to see; and thus the mind, moving in accord with the

[1] *Ibid.*, 91.

will, stops to consider the aspect which it likes, and so judges by what it sees."[1] Accordingly the ignorance of men is to be accounted for by their prejudices and passions rather than by defects in their reasoning powers. The favorite theme of Pascal is the dominance of passion and imagination over thought. Men can see but they won't see. Hence philosophical and theological arguments which may be sound enough logically are as good as useless because they are so abstruse and remote from the ordinary interests of life that they fail to hold our attention for more than a moment. It is true that Pascal sometimes asserts the impossibility of metaphysical proofs but his most characteristic point is his insistence upon their practical insufficiency, they do not convince the whole man. He states this most clearly in Cartesian terms as follows, distinguishing between the mind and the automaton or irrational element in man: "Proofs convince only the mind. Custom makes our strongest and hardest proofs. . . . We must have recourse to custom when once the mind has seen where the truth is, in order to drench and dye ourselves in this belief, which escapes us at every hour. . . . When we believe only from the force of conviction, and the automaton is inclined to believe the contrary, it is not enough. Both our powers must be made to believe: the mind by reason, which suffices to have examined but once: and the automaton by custom, which does not permit it to incline to the contrary."[2]

This general doctrine finds its illustration and end in his theory of Christian faith. The passage usually cited here is the one quoted by James in his *Will to Believe*, containing the account of the famous wager. Pascal[3] represents man as playing the game of life against inscrutable nature: heads, God exists, tails, he does not. On which side shall we bet? There is compelling reason on neither side, it is an irrational venture. But if we choose heads and win, the rewards are infinite. If we lose, we lose comparatively nothing, for religion is profitable through its results in character and social success. If we choose tails and win, we gain only the fleeting pleasures of this life, while if we lose, we lose an eternal happiness. It is the part of wisdom,

[1] *Ibid.*, 99. [2] *Ibid.*, 252. [3] *Ibid.*, 233.

therefore, to bet boldly upon heads and the existence of God, for the risk is virtually nothing and the possible gain is great.

Now we must admit that the idea of this religious gamble is not wholly attractive. It shocked even the robust and tough-minded James to such an extent that he failed to see its likeness to his own position. At first thought it seems to support the theory of the pure irrationalism of Pascal, for both moral and intellectual considerations seem ignored and everything put to the hazard of chance; but like everything in Pascal the thought must be tempered by being brought into relation to its cognate thoughts in other passages, and if we look at these the case is altered. This argument from chance is only one point, and a wholly isolated point, in Pascal's complete argument, an argument in the course of which he again and again asserts, as well as implies, that there are reasons for faith and that an unprejudiced mind will find the Christian religion to involve the most probable view of the nature of man and his relation to the universe. He has no faith in the argument from nature to God, but great faith in that from man and his history to God. His evidence is essentially psychological and moral, consisting in the correspondence between our experience of human nature and the theory of its condition and cure given by Christianity. The evidences are not compelling but there is enough to condemn, if not to convince. Religion is reasonable, though there is need of more than reason to induce its acceptance. Pascal's meaning here is clear enough though the conflicting language is confusing. As in all matters of belief, so in religion, the practical and emotional factors are determinant. Christianity is the most probable world view, but it involves certain practical disciplinary features which make it distasteful to the natural man, who therefore refuses to attend to its evidences. The way to induce faith, then, is to change the interests and subdue the passions sufficiently to let the truth be recognized. "Endeavor to convince yourself, not by increase of proofs of God, but by the abatement of your passions. . . . Follow the way by which they began; by acting as if they believed, taking the holy water, having masses said, etc. Even this will naturally make you believe and stultify

you." Now whatever we may believe about the efficacy of holy water, it is clear enough that Pascal is not here advocating a non-moral doctrine of pure chance or irrationalism, but insisting on moral discipline as the condition for the perception of truth.

Does this mean that we may believe what we please? Far from it. Pascal's constant lament is that people do believe what they please, or what pleases them, and that this is the source of all error, since their evil appetites are not pleased with the truth. "As if the agreeableness of a thing should regulate belief."[1] On the contrary, in things natural, at least, truth must commend itself to the understanding, though it can only secure a hearing if the will is in the right attitude and not warped by passion. In ordinary matters of fact, training and custom are sufficient to ensure this attitude though men are far enough from having attained it.

But while in daily life it is not safe to believe what we will, Pascal seems to suggest that in the significant questions of religion and morals the case is somewhat different, and that here the will to believe has rather more in its favor. For his contention is that in this sphere in order to know we must first love; the mind is to be reached through the heart. According to his Pauline Augustinian conception, the will of man is hopelessly corrupt and can only be directed upon the highest good through the grace of God. This sufficient and resistless grace of God induces in the heart of man a perfect and effective conviction of the reality of objects about which otherwise he would be in doubt. He believes because he feels their reality. "The heart has its reasons which the mind knows not of."[2] Man believes in God because God has roused his love, because he is the all-absorbing object, in the rapt contemplation of which, all doubts are stilled. It is this divine fascination that determines belief.

But all this, however one may color it, is not pragmatism. It is Augustinianism, it is mysticism, but it is nothing so supposedly modern as pragmatism, for it is not a doctrine of the nature of truth. Pascal's very scepticism, indeed, arises from

[1] *Art of Persuasion, Opuscules.*

[2] *Pensées*, 277.

his implicit absolutism. Had the modern light dawned upon him he would have been less tragic in his despair of knowledge.

Yet while one cannot count him a pragmatist in the strict sense of the term, one must recognize in his thought features which ally him at least with the more popular and religious aspects of that tendency. These, as I have tried to suggest, are his recognition of the insufficienty of rationalism, his reliance upon experience, his recognition of the place of the active factors in belief, his emphasis upon custom, and his appeal to religious experience as the source of religious truth. In these anthropocentric tendencies one feels the modernness of Pascal.

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REVIEWS OF BOOKS.

Essays on Truth and Reality. By F. H. BRADLEY. Oxford, The Clarendon Press, 1914.—pp. xvi, 480.

"The present volume consists mainly of articles that have appeared in *Mind*. I have added a paper first printed in the PHILOSOPHICAL REVIEW, and there are also some essays which have not before been published" (Preface). Most of the essays already published have appeared within the last half dozen years, though one ("Consciousness and Experience") dates as far back as 1893. The essays are designated as chapters and, though the coherence is naturally not so close as one would expect in a volume prepared as a unit for publication, the designation does not seem amiss. The whole makes up a fairly well-unified volume upon the subject indicated by the title and discusses, in relation to opposing points of view, some of the most fundamental principles of Mr. Bradley's philosophy. Ideas and their relation to reality, the pragmatic concept of practice, judgment and the principle of coherence, God and the Absolute, and immortality, are the chief of the more general topics dealt with.

Critics have learned to approach a book by Mr. Bradley with some fear and trembling. It is not so much that the author's acknowledged ability and wide learning properly make one weigh one's thoughts before one takes issue with him. Mr. Bradley's books are difficult; they are difficult because his philosophy itself is difficult. One may well doubt whether any English metaphysician since Hume has constructed a system with greater subtlety than has gone to the making of Mr. Bradley's. Without a formidable terminology, without crabbedness of style, without a scholastic array of technicalities, without unusual abstractness of argument, Mr. Bradley's philosophy is nevertheless extraordinarily difficult to grasp and still more difficult to criticize. It is elusive, and the critic who thinks he has caught a point and answered it, frequently finds himself told that he has not understood. This is by all odds the most common reply of Mr. Bradley to his critics.

Elusiveness of this sort is inherent in the nature of the system. A subtlety less in degree than Mr. Bradley's is bound to flounder in a philosophy which balances so nicely the conflicting motives of absolutism and relativism. Nowhere has the author emphasized the latter

phase of his system more strongly than in the present volume. It is the key-note of his summary: "Everywhere on behalf of the real Absolute I have been warning the reader against that false absolutism which in philosophy is to me another name for error. And it is an error which results in a two-fold mistake. It takes some distinction within the whole and asserts it as being real by itself and unconditionally; and then from this misconceived ground it goes on to deny or to belittle other complementary aspects of the same whole. But, as against such absolutism, the very soul of the Absolute which I defend is its insistence and emphasis on an all-pervasive relativism. Everything is justified as being real in its own sphere and degree, but not so as to entitle it to invade other spheres, and, whether positively or negatively, to usurp other powers. . . . Justice in the name of the Whole to each aspect of the world according to its special place and proper rank—Reality everywhere through self-restriction in claim and in denial—this may be said to be the principle which unites these Essays" (pp. 470 f.).

The consequence of this universal receptivity is that it is extraordinarily difficult to bring any difference of view to an issue. Every point of view, every theory, even every judgment, is at once both true and false, and the decision depends upon a delicate estimate of the surplus of one over the other. Considered merely from a tactical point of view, such subtlety cuts two ways. On the one hand, it reduces the critic to despair, for he cannot come to grips with it anywhere. When Mr. Bradley denies that change is real, his critics absurdly suppose him to mean that change does not exist (p. 471), whereas for Mr. Bradley, as for everyone else, 'the world is throughout full of change.' In other words, to deny that change is real does not modify one's acceptance of the actuality of any change whatever. What 'Common Sense' calls a fact leaves Mr. Bradley unmoved, for Common Sense and metaphysics have nothing to do with one another (p. 444). Even what seems to be a plain contradiction may be held for practical purposes (pp. 123 f., 132 f., 445), since one has faith that 'somehow' the Absolute transcends and harmonizes the discrepancy. What, then, is the critic to do, if neither facts nor contradictions can get through the philosopher's armor? On the other hand, however, subtlety has to be paid for. Mr. Bradley's denials to the contrary notwithstanding, the whole project of a metaphysics conceived in this fashion has an air of unreality about it. Metaphysics is like nothing else in heaven or earth; it has no practical consequences, except perhaps to induce a sort of sceptical tolerance (p. 443 ff.), and its ideal

theoretical interest is wholly unlike the theoretical interest of science (cf. pp. 220, 258, 267). Nowhere except in metaphysics is abstraction as such an error; everywhere else the question is whether a given abstraction furthers analysis. Everywhere else mere inclusion, accomplished 'somehow,' we know not how, spells disorder rather than harmony. Everywhere else to qualify one view as real or true means to qualify some other view as unreal. Is it any wonder, then, that Mr. Bradley's philosophy has seemed to more than one critic a bewildering attempt to have one's cake and eat it? Such criticism may be only 'Common Sense,' or it may arise from what Professor Bosanquet has called 'a lack of philosophical imagination,' but not everyone finds it so easy as Mr. Bradley to characterize and set aside his indispensable 'real world' (Ch. XVI). If a personal bias were in place, one might express a doubt as to whether philosophy can live in an atmosphere so highly rarified.

The peculiarity of Mr. Bradley's philosophy lies in what may be called broadly his theory of judgment, understanding this to include its implications regarding the general nature of reality. The theory has two main aspects, the concept of immediate experience (reality) and the theory of judgment strictly (truth). Like modern idealists generally, Mr. Bradley starts with the problem of dualism before him; a theory of knowledge must before everything else get beyond the cleft between knowledge and reality which had broken Kant's philosophy in halves. Reality therefore must be a union of being and knowing, of object and subject. For Mr. Bradley the type of such a union is found in the immediate experience of feeling (Ch. VI),—'a single state of undivided awareness' (p. 173). In such immediate experience we have unity, for the state is felt as undivided, yet this unity is capable of containing an indefinite amount of difference. Feeling is a non-relational unity in difference. Such immediacy transcends the distinction of terms and relations by being at once infra-relational and supra-relational,—infra-relational in the sense that a disharmony in immediate experience may at any time awaken the mediating, relational activity of judgment; supra-relational in the sense that such mediation, when it is complete, rests in the restored harmony of immediacy. Judgment, or the relational consciousness, falls within immediate experience; it emerges from it and merges into it again when its work is done. Immediate experience, therefore, is the background upon which judgment and thinking take place. It is not merely a stage of experience which disappears in the relational consciousness. "It remains at the bottom throughout as fundamental" (p. 161). It *is* experience and hence is reality.

The process of judgment presents the unity of experience in a relational form. The 'that' and the 'what,' which in immediate experience are one, are broken apart in judgment. This involves abstraction and selection, processes by which the judgment transcends immediate experience, for by them the implicit distinctions of the original unity in difference are made clear and definite. As terms and relations they are fixed in conceptual form, and the function of such mediation is the production of a higher type of unity in difference which in turn transcends judgment. Thus the processes by which judgment performs its function are also the source of its imperfection. Because it is selective, because it must work with terms and relations, thinking can never fail to fall short of perfect unity in difference. "Judgement has to qualify the Real ideally. And the word 'idea' means that the original unity has so far been broken. This is the fundamental inconsistency of judgement which remains to the end unremoved, and which in principle vitiates more or less all ideas and truth. For ideas cannot qualify reality as reality is qualified immediately in feeling, and yet judgement seeks in vain to escape from this foregone method" (p. 231; cf. pp. 330 f.).

Hence the problem of consistency and contradiction takes on the peculiar form which that problem has in Mr. Bradley's system. The judgment always asserts the simple identification of subject and predicate. Ultimately the subject of the judgment is reality, and hence what is really asserted is the identity of reality with the ideal content by which the judgment qualifies reality. But no ideal content can ever be identical with reality, for reality is a unity in difference which in principle excludes the relational form of an ideal content. In consequence every judgment must contradict itself, and the detection of this contradiction at once lays upon judgment the necessity of seeking the conditions which would enable it to identify subject and predicate. In short, it must seek the totality of conditions that would make its ideal content identical with reality, and this is a goal which could be reached only after the judgment form had been left behind. "Truth is not perfect so long as it fails anywhere to include its reality, and its reality is not whole so long as any of its conditions are left out. Truth, compelled to select, is therefore forced to remain forever defective. Its purpose, though realized increasingly, is not utterly fulfilled, and to fulfil that purpose would be to pass beyond the proper sphere and limits of truth" (p. 330). On its part, the judgment, because of its defect, constantly threatens to lapse into the form of abstract identification; but this form is meaningless and thus

shows itself at once to be what the judgment never really means (p. 231 f.). The judgment is always fated to mean more than it can really say and to say more than it has any right to mean.

The theory of judgment here outlined forms, if I have understood him, the foundation of Mr. Bradley's philosophy. It is restated in the present volume with perhaps increasing vigor and clearness, but it has long been familiar to readers of the *Principles of Logic* and *Appearance and Reality*. The peculiarity of the position lies not in any single element of the theory, for all these could be duplicated elsewhere without difficulty, but in the combination of the elements. There is, of course, nothing peculiar in Mr. Bradley's theory of the abstractness of judgment; this is perhaps commonly accepted, at least outside of Hegelianism. Nor is the theory unknown that a fully mediated judgment would be identical with reality; this is common to most philosophy depending upon Hegel. But the combination of these two views is peculiar, so far as I know, to Mr. Bradley. Professor Bosanquet, perhaps, would agree with him (cf. *Logic*, 2d ed., Vol. II, p. 288, note b), but certainly he has nowhere emphasized immediate experience and the inadequacy of judgment as Mr. Bradley has done repeatedly. The essence of Mr. Bradley's position is his ideal identification of thought and reality, witnessed by the inherent striving of the judgment toward a totality of conditions, while at the same time he insists that thought, because it is abstract and selective, can never be identical with reality.

On its face this position is singular enough to merit some explanation and Mr. Bradley has supplied the clue at least to its origin. As was said above, Mr. Bradley, in common with other idealists, starts from the dualism of Kant, and this requires, it is held, some sort of identification of thought and reality. Now by all odds the most thorough-going attempt to carry out this identification by the post-Kantians is to be found in Hegel's dialectic. But as Mr. Bradley tells us, the dialectic, if it ever gained his acceptance, certainly lost it before he got his own point of view finally formulated. The development of the whole reality from every partial element by compensating the internal contradictions of the part is not a verifiable solution of the problem of unity in difference (pp. 223 f.). The difficulty here, or at least one difficulty, if I understand Mr. Bradley, is that the dialectic implies a literal identification of thought and reality, a construction of reality from the terms and relations of thought, and this, as he tells us elsewhere (*Appearance*, Appendix, p. 554), he never could adopt. The principle of the dialectic would satisfy the

intellect if it were verifiable, but since it is not, the intellect is unable to satisfy its own demands and must look for their satisfaction in a whole which is above intellect. Abstract identity is untenable because it is meaningless, and yet the intellect does not possess the principle of identity in diversity which alone would suffice for its satisfaction (*Appearance*, Appendix, p. 568 f.).

Mr. Bradley's position, then, is the outcome of a characteristically subtle reformulation of the principle of dialectic. The principle is accepted and rejected at once. It is accepted in so far as Mr. Bradley regards thought as a pursuit of consistency which cannot stop short of the inclusion of an absolute totality of conditions; this clearly suggests Hegel's ideal of a self-differentiating, concrete thought. The principle is rejected, however, in that this movement of thought is not really the 'rational self-development of the Absolute' itself; it is the manipulation of terms in relations, of abstractions which can never themselves reach the goal of perfect unity in diversity. The case seems to stand as follows: Hegel's ideal is ultimately intelligible but it is impossible because thought is not what Hegel takes it to be; nevertheless, as intelligible, this ideal is necessary and therefore ultimately real.

The important critical question, of course, is whether Mr. Bradley's partial acceptance and partial rejection of Hegelian principles can be made tenable. The question is difficult and needs a long and careful discussion which is impossible here. If I may be allowed merely to indicate what I conceive to be its consequences, I would say that it appears to me to involve Mr. Bradley's account of the criterion of truth in a hopeless ambiguity. The criterion, of course, is said to be non-contradiction. It is clear that this criterion applies to truth considered strictly, for the principle of contradiction can apply only to terms. It has no application except in the judgment; Mr. Bradley defines contradiction as the "simple identification of the diverse" (p. 228). On the other hand, however, the function of the judgment is to seek a higher immediacy. In the long run every judgment is contradictory and the coherence which judgment mediates must always be the concrete unity in difference of immediate experience. But surely Mr. Bradley cannot hold that this concrete harmony and coherence is identical with the non-contradiction of judgments. The judgment cannot attain the coherence of immediacy without ceasing to be judgment; but certainly nothing can be contradicted except a judgment and nothing can contradict a judgment except another judgment. The test of truth, then, might conceivably be the concrete

harmony which it produces, or it might be the absence of self-contradiction, but it is difficult to see how it can be both at once. The ambiguity, it should be noted, is produced by Mr. Bradley's combination of Hegelian and non-Hegelian points of view. The essence of the Hegelian position was that contradiction is a force at work in things; there is no difference between contradicting judgments and incoherent things. It is possible, moreover, to see the direction in which the ambiguity in Mr. Bradley's criterion of truth will lead him. The judgment by itself, as he notes, has a tendency to lapse into abstract identity, because it asserts an identity and lacks the ground for true unity in difference. So long as the emphasis is on contradiction, therefore, the tendency will be to find mere difference contradictory and to identify non-contradiction with abstract identity. On the other hand, when the emphasis falls on concrete coherence, one would expect to find the latter ready to swallow even apparent contradictions. I believe that it could be shown in detail that something of this sort really happens in the *Appearance and Reality;* certainly the earlier, critical portions of that work seem to use the principle of contradition in a way quite different from the later, constructive portions.

Mr. Bradley feels it necessary to apologize for the number of pages devoted to pragmatism in the present volume (p. vi). But surely it is easy to see, supposing the preceding criticism of Mr. Bradley's criterion of truth to be at all sound, why Mr. Bradley has been the target of so much pragmatist criticism. The dialectical development of an ideal content to a point of identity with reality seems quite meaningless unless thought really constitutes reality. The pragmatist rejected any such assumption, and here Mr. Bradley gave him aid and support; for no idealist has been so outspoken in rejecting an identity between thought and reality. To the pragmatist, therefore, there was in Mr. Bradley's idealism just one confusion the less to be combatted. And what more natural than that the pragmatist should try to show that if one rejected Hegel, the rejection must at least be whole-hearted? If one really believes that thought does not constitute reality, it is surely not plausible to believe that thought must eternally and vainly endeavor to do so. Mr. Bradley had himself argued cogently that the function of thought is to heal disharmonies in immediate experience, that the judgment arises as a process of mediation in response to the demand for such harmony, and that it fulfils its function when it issues in immediacy at a higher level. Remove from Mr. Bradley's philosophy the dialectical remnant which makes

him depreciate judgment because subject and predicate never can be identical, and thereby remove the presumption that immediate experience must be absolute, and surely the way to pragmatism is open. The disharmonies become specific occasions and thought must be judged by its functioning in a definite situation. Whether one calls the disharmony practical or not is a minor matter; it may be called so in the sense that as a disharmony it is not explicitly a contradiction. Without exaggeration it may be said that Mr. Bradley's formulation of idealism was the natural point of attack for the pragmatists.

All students of philosophy will be delighted to see that Mr. Bradley holds out in his Preface the hope that his earlier works are now to be republished. It will be the sincere wish of everyone that this may be done. The *Ethical Studies* and the *Principles of Logic* have long been out of print and are difficult to obtain in the original editions. The photographic reprints in which most scholars are forced to use these works are so badly made as to be wholly unworthy of them. The two volumes in question are classics in the history of English Idealism, the *Ethical Studies* being earlier in date than any other work of present interest produced by that movement. Mr. Bradley will confer a benefit of no small consequence upon his younger contemporaries by making these works accessible to them. It is to be hoped also that the original text will be preserved intact. The books already have an historical value and are likely to have a greater. It would be unfortunate to obscure their value in this respect by the introduction of minor revisions.

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Law as a Means to an End. By RUDOLF VON JHERING. Translated by ISAAC HUSIK. Boston, Boston Book Co., 1913.—pp. lix, 483.

This translation of the first volume of Jhering's *Zweck im Recht* forms the fifth volume of the Modern Legal Philosophy Series. The object of this series, published under the auspices of the Association of American Law Schools, is to make the best modern works in legal philosophy available to the English speaking lawyer. That such a task should be undertaken by such a representative body is significant not only of the breakdown of the insularity or provincialism which has long kept common law jurists as a rule entirely unacquainted with the juristic thought of other countries, but also significant of the liberation from the still prevailing ideaphobia which is gradually taking place nowadays in the forefront of many fields of intellectual

endeavor. The publication of these books is worthy of encouragement from the educated public generally; the more so, because their subject matter, though of vital importance, has not yet received academic recognition in this country. The subject as yet finds no place in the curricula of even our best law schools, and most teachers of philosophy are likely to regard subjects of this kind as falling outside the province of academic philosophy. In the sense, however, in which the editorial committee uses the term philosophy, viz., as denoting "the science of general ideas, analyzing, restating and reconstructing concrete experience," no subject to-day is so rich in philosophic material.[1]

It is somewhat unfortunate that the first volume of this series to be noticed in a philosophical periodical should be a work of such antiquated psychology and such mediocre philosophic power as this first part of Jhering's *Zweck im Recht.* In view, however, of recent discussions of pragmatism, its theme, if not the execution, is of timely interest. In the course of a long and energetic career, as a writer and professor of law, Jhering became dissatisfied with the method of the historical school of jurisprudence, which since the day of Savigny had held undisputed sway. Contrary to its view that law is always the result of deterministic, unconscious evolution of a *Volksgeist*, Jhering became convinced that law is the result of a conscious effort and struggle on the part of individuals; and that instead of the prevailing method of deducing the content of law by conceptual analysis of its necessary nature, its end or purpose was rather to be sought for.

As the philosophy of the historical school had, with the aid of ideas taken over from Schelling and Hegel, been worked out with the appearance of great thoroughness, Jhering felt obliged to work out a contrary philosophy of his own. Unfortunately, however, Jhering had no philosophic training or native ability in that direction. His mind was broad rather than deep, fruitful in shrewd insight (sometimes bordering on the commonplace), but so mastered by his material, as to be unable to affect a stable organization of the large ideas that his material suggested. Thus, accepting the popular mechanical psychology and sociology of his day (1877), he assumes conscious egoism as the sole motive power of human life, and tries to show how, by means of a system of levers (reward and coercion) the social institutions of commerce and law are built up. In the course of this process, Society, or the more enlightened portion of the community,

[1] For further remarks on this series of books, see "Jurisprudence as a Philosophical Discipline," *Journal of Phil.*, X, pp. 230 f.

steps in like a deus ex machina. But the nearer Jhering comes to the legal material with which he is more familiar, the more he forgets his peculiar intellectual ritual, and lets the situation speak for itself. Thus his condemnation of legal egoism (p. 397), his critique of the laissez-faire policy of Humboldt and Mill, his distinction between the point of view of sacrifice and the one in which the individual identifies (p. 421) his end with that of the community, are not only independent of his fundamental assumptions, but will be found to be inconsistent with them.

The idea of purpose in law is undoubtedly a far-reaching and fruitful one, but divorced from a comprehensive philosophy of life and human values it becomes futile, offering no test or method of deciding between conflicting purposes. Thus Jhering finds the problem of the proper limitation of state activity insoluble and concludes that "legislatures will in the future as in the past measure restrictions of personal liberty not according to an academic formula but according to practical need" (p. 409). But what *is* the *greater* practical need in any given situation largely depends on our implicit philosophy of life. Here as elsewhere, Jhering fails because empty rationalism and blind empiricism exhaust for him (as for others) the possibilities of scientific method. The study of Kant might at least have cured him of that limitation.

For some reason or other utilitarianism (and may we not say pragmatism?) has generally been supposed to be necessarily associated with empiricism or positivism, and it is well to note with Professor Geldart (p. LI) that there is no inconsistency between utilitarianism and idealism, certainly not if utilitarianism is defined as "nothing but the refusal to isolate any part of human action, and to consider it apart from its consequences" (p. LII). A close examination of any field of practice like law shows it is always some union of utilitarianism with idealism, like the Platonic, Kantian, or Hegelian, that proves the most effective.

In spite of Jhering's philosophic limitations this translation will undoubtedly be exceedingly useful to the legal profession of this country, which is still predominantly under the influence of legal scholasticism or, as Professor Pound calls it, the mechanical jurisprudence of concepts. American jurists as a body also need the keen criticisms of the individualistic maxims of our law, and to be reminded that "it is not true that property involves in its idea the absolute power of disposition," and that "the principle of the inviolability of property means the delivery of society into the hands of ignorance,

obstinacy, and spite" (p. 389). It is a pity, however, that the editors did not omit all or the greater part of the first seven chapters (more foreign to legal philosophy than chapter 9 which remains here untranslated), and print instead some translations from Jhering's *Scherz und Ernst*, especially the delightful essay *Im Begriffshimmel.*

Besides the general introduction of the editorial committee prefixed to every volume of this series (and well worth while), there are three special introductions to this translation. The introductions by Professors Drake and Geldart contain interesting parallels between Bentham and Jhering and an indication of the significance of Jhering's message in the present state of legal thought in this country and England. Geldart's very meaty introduction also calls attention to the great differences between the English common law and German civil law due to the fact that the latter has been taught in the Universities while the former has been taught in unacademic professional guilds, the Inns of Court. What Geldart says of England is, in spite of the more or less close connection between our law schools and universities, still true of the United States. For our law schools, much older than our real universities, have up to this day been entirely dominated by practical professional aims; and until the last generation their graduates formed but a small part of the legal profession. The recent expansion, however, of our universities has brought about the rise of a class of law teachers who look upon law teaching as their profession (instead of an addition to their practice), and this is bound to bring about a scientific study of the law such as prevails in civil law countries. Indeed the publication of the Modern Legal Philosophy Series and other similar ventures are fair indications of it.

The introduction by Chief Justice Lamm, of the Supreme Court of Missouri, is fairly typical of the old and established order of juristic thought in this country. Finding that Jhering's views rest on a Darwinian theory of natural evolution (against which, however, see Jhering's preface), the Justice feels it his duty to call attention to this dangerous novelty. Thus: "Is the 'fall' of man an unthinkable hypothesis? Are the concepts of justice, right . . . and all the noble precepts of natural law, and natural equity, and moral law, the result of a slow evolution through the ages, the result of mere cause and effect? Or, are they of divine origin, implanted by his maker in the breast of the just man, as some of us old-fashioned folks were taught to believe? . . . Is it not the instinctive deference to and reliance on those natural equities, as implanted by Heaven in the human breast, that causes constitutional limitations to be put on the power of

the legislature to abrogate them by law?"—Thus we learn that the fall of man and constitutional limitations in our legislatures are part of the same orthodoxy. Judge Lamm, I suppose, represents the liberal spirit among our American judges and older practitioners. There are certainly many who do not speak of the new heresies in so kindly and urbane a fashion.

By way of supplement there are added to this book translations (by Mr. Kocowrek) of Merkel's estimate of Jhering's lifework in the *Jahrbücher für Dogmatik* of 1893, and of Tanon's luminous discussion of Jhering and Teleologic methods in law in his excellent book *L'Evolution du Droit et la Conscience Sociale.*

The translation by Messrs. Husik and Kocowrek is of a high order, combining faithfulness with fluency. Dr. Husik's apparent unfamiliarity with English legal terminology and his inclination to translate German technical terms literally produces rather cumbrous and unintelligible effects, such as "bilateral promissary business," or "imaginary unilateral real business." Moreover the English *real* does not convey the same meaning as the German *real*,—certainly not to lawyers who talk about *real* property, or to philosophers who talk about *real* tables. Objections may also be taken to Mr. Kecowrek's rendering of the French *finalité* by the English *finality* which has an entirely different connotation. Teleology, purposiveness or finalism are more available. The expression "the contrast of the revolutionary period against cosmopolitanism," etc. (p. 437) is unintelligible.

Tanon, as well as Geldart, mildly protests against Kohler's sweeping condemnation of Jhering as "ein ganz unphilosophisches Kopf." Tanon's protest is based on the plea that metaphysics is unnecessary for a philosophy of law. The fundamental contradictions and obscurities which Tanon points out in Jhering's system show, however, that here as elsewhere metaphysics, as "the obstinate effort to think clearly," is only an indication of well organized thought.

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The Foundations of Character. Being a Study of the Tendencies of the Emotions and Sentiments. By ALEXANDER F. SHAND, M.A. London and New York, The Macmillan Company, 1914.—pp. xxxi, 532.

In this volume Mr. Shand sets before us the organon and some of the contents of the science of character, which J. S. Mill projected in

his *Logic*, as "Ethology." Mr. Shand finds the foundation for this science in his hypothesis of the emotions and sentiments, which has long been known through his articles in *Mind*, and the chapter written by him in Stout's *Groundwork of Psychology*, as well as through its employment in the works of McDougall, Westermarck, Sully, Caldecott, and Boyce Gibson, all of whom are at least partial converts to the theory. The full significance of the doctrine, now that it has been set forth at length, in maturer as well as in more popular form, and in its setting with reference to the larger topic of character, is at once evident.

Mr. Shand's psychology throughout is what we in America call 'functional.' It would not be possible, he maintains, to understand character by viewing the different processes of perception, thought, feeling, and will in isolation. They must be interpreted in the light of the directing forces that organize them, and give the mind its unitary character. Such organizing forces are the emotions. The real significance of these cannot be found by analyzing them into constituent sensations and feelings in the traditional way, and advancing an interpretation of the related physiological problem. This was the mistake of the James-Lange theory. On the other hand, the emotions can only be understood in the light of their original biological value for survival, and, what is still more important, their present larger service in the full development of character. As Mr. Shand uses the term, therefore, an emotion includes, not merely a bare feeling, but this feeling conjoined with impulse and an essentially cognitive attitude. The emotion in its entirety is a system of which the portion that we feel is only the part that is present in consciousness, whereas there is, besides, the receptive part which evokes the impulse, say of anger or of fear, and the executive part which carries out the impulse into action.

From this description, those familiar with McDougall's *Social Psychology* will recognize that what Shand calls the "system of a primary emotion" corresponds pretty closely with what McDougall would call a "primary instinct." Shand uses 'instinct' in a different sense, to connote some rather definite mode of behavior which is innate, though modifiable by habit and foresight of ends, and attended by an impulse; whereas an emotion is larger and more comprehensive, and within its system may be organized a considerable variety of instincts and other impulses (pp. 185–92). It seems to the reviewer that, while Mr. Shand has made a good point against Dr. McDougall in showing that an emotion may find expression in one of several

modes of behavior, and that the same mode of behavior may be attached to different emotions, it none the less remains more advantageous to retain the term 'instinct' for the entire disposition which Shand calls the 'system of the emotion,' and to confine 'emotion' to the affective phase present in consciousness. This seems more in accordance with ordinary usage and less liable to misunderstanding. While the issue is largely a matter of terminology, it has important consequences, as Shand's usage seems to have misled him in his classification of joy, sorrow, and desire.

A sentiment is a 'greater system' of the character, which organizes and directs the 'lesser systems' of the emotions. Love, for example, is such an organization of the lesser systems of many emotions that "in the presence of anything we love we are disposed to feel joy, and in prolonged absence from it, sorrow, and at the suggestion of danger to feel the fear of losing it, and when it is attacked to feel anger against the assailant" (p. 35). As we become conscious of the qualities of a sentiment and reflect upon them, and strive after them *ideals* develop—*e. g.*, devotion, loyalty, constancy and sincerity for the sake of a loved object—such as another person or a science or an art—and from these ideals arise *duties* and *virtues*. Thus an inner system of virtues, ideals, and duties develops within the sentiment, which Shand calls the "relative ethics of the sentiment." As a check or regulator between the different sentiments, each with its own relative ethics, develops the "general ethics" attached to the Conscience —the latter a sentiment unique "in not possessing any private object," and so "not urged to partiality on that account" (p. 119).

After the conceptions of the emotions and sentiments, perhaps the most valuable contribution in the volume is the treatment of temperament. The traditional four temperaments are keenly criticized and found inadequate. The better way is to view a man's temperament in the light of his "tempers," *i. e.*, the various particular dispositions which each of his emotions tends to assume. Thus in different individuals the emotion of anger gives rise to 'irascible,' 'sullen,' 'violent' and 'peevish' tempers; sorrow to 'sorrowful' and 'melancholic' tempers, etc. Ruling tempers color an individual's temperament as a whole. This method of analysis is applied to various characters in history and literature by way of illustration, and is effective and illuminating. Laws of temperament are also developed which seem convincing. Perhaps it is not too much to hope that now, for the first time since Galen's attempt, an investigator has at last indicated how the study of temperaments can be placed on a scientific basis.

About half of the entire volume is devoted to a detailed analysis of the tendencies of the dfferent primary emotions, each of which is discussed separately. Shand does not seem to the reviewer to have succeeded in showing that joy and sorrow are primary emotions, although he makes it clear that it is much more significant to interpret pleasure as an element in a larger system than to view it in the ordinary manner as affection, abstracted from cognitive and conative processes. He admits that although there is scarcely any instinct that may not be called into activity through it, joy has no special instinct of its own except merely the maintenance of pleasurable states in which it is experienced. It seems to me that in view of this admission it would have been better to have regarded joy more as pleasure is usually treated—as attending and reinforcing mental activity—but having cognitive and conative as well as affective phases.

The third book, entitled "The System of Desire," seems to be the least suggestive part of the volume, and most difficult to understand. Throughout the earlier part of the volume we were informed that the emotions have conative sides, and are directed towards ends. Why are we now introduced to 'desire' as a *separate* system, with its own set of emotions? Why not say that every emotion—in McDougall's terminology, every instinct—in striving for its end has its conative side, and that this on occasion induces the subsidiary complex emotions of hope, anxiety, despondency, etc.?

In his methodology, Mr. Shand proclaims himself in the main a follower of Mill. His procedure is inductive and empirical. He points out, however, the limitations of Mill's associationism. To remedy these, while retaining association as one law of combination, he adds another law, that of "organization." The conative activity everywhere organizes mental processes into a systematic unity. This "law of organization" seems to be really more in the spirit of Hegel than of Mill, and if Mr. Shand had consciously as well as unconsciously made use of a neo-Hegelian logic he could apparently have brought out more prominently than he does—what it seems certain that he really believes—that the mind always acts as a unity, and that all the emotions and sentiments are phases of the concrete unity of the self. As it is, some critics will be certain to exaggerate Mr. Shand's empiricism, and unjustly accuse him of thinking of human character as an aggregate of discrete elements linked together in a cause and effect series.

These criticisms are of course not intended to detract from the great value of Mr. Shand's volume. It unquestionably marks an important

advance in the understanding of human character, and has done much to open up a new field, which most psychologists have avoided on account of its subtlety, to exact scientific description and analysis. The volume particularly deserves the careful study of those interested in social psychology and ethics, while its semipopular style and generous use of illustrative material drawn from French and English literature, will make it as practically available as it is bound to be invaluable to those students and producers of literature who wish more effective tools of character analysis and appreciation.

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L'esthétique de Schopenhauer. Par ANDRÉ FAUCONNET. Paris, Félix Alcan, 1913.—pp. xxii, 462.

This book is a vigorous defence of Schopenhauer's theory of art. The author is convinced that it is impossible to regard Wagner's work as one of the most important events in modern history without admitting the epoch-making character of the Schopenhauerian æsthetics (p. 444). He makes a consistent, energetic attempt to prove the permanent significance of Schopenhauer's metaphysic of the beautiful, and to show moreover that the master's doctrine is not a whim of genius, a *tour de force*, but rather that it is coherent and organically one with the rest of his philosophy.

Dr. Fauconnet leaves largely untouched the question of Schopenhauer's own æsthetic education (*cf.* p. iv, but also pp. 423, 434 ff.). He touches on Plato, Kant, Schiller, and Wagner, not in order to discover any relations or influences, but rather in order to understand, by reference to their works, how Schopenhauer represents to himself the originality of his own views (p. vi). The author's aim is to analyze Schopenhauer's doctrine itself, neglecting no detail, and to coördinate its elements, to relate it to the rest of his philosophy, all the while being conscious of the fundamental problem underlying his inquiry: To what extent are the exigencies of pessimism compatible with those of art?

Before the writing of the Third Book of *The World as Will and Idea*, Schopenhauer's theory of art was already present in its essentials in his early works. To the four books of his masterpiece correspond the four chapters of his Dissertation of 1813, and the Beautiful plays the same rôle in both: it is a propadeutic to the Good (p. 7). In his *Theory of Colors* (1816) Schopenhauer pits the poet Goethe against the mathematician Newton, æsthetic intuition against scientific

calculation, and attacks a problem capital in all theory of art, the problem of æsthetic pleasure. The optic nerve procures us æsthetic enjoyment because it is insensible to pleasure-pain, because it is capable of a negation, ephemeral but real, of the will-to-live. In both of these early works the contour of the theory later developed can be anticipated.

The foundation of Schopenhauer's metaphysic of the beautiful Dr. Fauconnet finds in his theory of Ideas. The knowledge of phenomena in space-time is a knowledge of an infinity of individual things which do not admit of any hierarchy, of any 'degrees of objectification.' Schopenhauer accordingly treats the phenomena of the space-time world as the changing appearances of the eternal essences, the Platonic Ideas. Science is concerned only with relations: the artist's intimate sense of communion with the All, his recognition of the eternal in the transitory, is a flash of intuition which is also the deepest wisdom of the philosopher: *Hæ omnes creaturæ in totum ego sum et præter me aliud ens non est.* The eternal ideas (Schopenhauer prefers to speak of them in the plural, in order to guard against their being confused with Kant's noumenon) are the permanent essential forms of reality, transcending space and time. But, if they transcend space and time, how can we speak of their permanence, eternity, number? Fauconnet would solve this apparent antinomy by distinguishing between Kant's and Schopenhauer's notions of eternity. For Kant eternity is a schema of necessity, essentially a time-determination. For Schopenhauer, however, eternity is not a modality of time, but the negation of time. In contemplating the eternal present, the artist transcends the confines of the temporal.

Turning now to the structure of Schopenhauer's æsthetics, Dr. Fauconnet distinguishes two moments: in the first, by means of a rational analysis, Schopenhauer elaborates a theory of the arts; in the second, he tries to make clear to the heart that which he has analyzed in intellectual terms; this latter is his doctrine of music, of the total and synthetic art.

Things are the more beautiful, the more they facilitate and evoke purely objective contemplation. This principle of Schopenhauer is fundamental. The hierarchy of art-forms accordingly corresponds to the degrees of objectification of the will. To the Ideas of natural forces (rigidity, gravity, light) corresponds the art of architecture; to the Ideas of vegetable nature, the art of landscape gardening, paysage and still-life painting; to the Ideas of animal nature, sculpture and painting of animals; to the Ideas of living humanity corre-

sponds the expression of beauty, grace, and character, in sculpture and painting; to the Idea of active humanity, historical painting; to the Ideas of humanity thinking, and expressing its thought in language, corresponds the art of poetry. The hierarchy of arts is determined not only by the law of progressive objectification of the Will, but also by two other directing principles. Thus, the study of the various arts reveals an evolution in æsthetic pleasure; the subjective element, which predominates in the enjoyment of architecture, grows less and less in evidence, and the purely objective element more and more dominant, as we ascend the scale of the arts, until, in the enjoyment of tragedy, we find the minimum of the subjective, and a predominance of the objective element. A third principle is pointed out by Dr. Fauconnet: the law of contrasts. From architecture,—manifesting the conflict between gravity and rigidity,—all the way up to poetry, we see an enhancement of the conflict; it grows clearer, more acute, until finally, in tragedy, it reaches its maximum, the conflict between the assertion and the denial of the Will. Above all these arts, however, and in a class by itself, is music, unique in that it is the immediate objectivity of the Will itself. Music is the art of arts for Schopenhauer: the other arts deal with shadows; its province is the essence of things (p. 95).

Schopenhauer classifies the senses in the order of their dignity (vision, audition, touch, smell, taste) according as they are more or less susceptible to pleasure-pain. Smell and taste do not interest æsthetics, and touch, only indirectly. While generally regarding vision as higher than audition, Schopenhauer, through a curious physiological theory, gives to audition a unique place. For optical sensation is a retinal matter, while audition is not limited to the ear, but touches the inmost depths of the brain, and is thus the most immediate and the most profound of all the senses. But, at whatever stage of its progress we regard it, art is a revelation. All true æsthetics is essentially a theory of knowledge; a painter's landscape is a state of the soul; a good style is conditioned by good thinking; poetry is man's self-revelation; the artist's contemplation yields knowledge unclouded by the veils of illusion. *Kunst ist eine Erkenntnissart.*

Following this keen analysis of the basis, fundamentals, and structure of Schopenhauer's æsthetics, to which 117 pages are devoted, the author spends 259 pages on a detailed discussion of Schopenhauer's treatment of the various arts. The titles of the ten chapters (De l'architecture; Des arts plastiques; Des rapports de la peinture et de la sculpture; De la sculpture; De la peinture; Les arts de la parole;

Tâche et technique de l'ecrivain; De la poésie en générale et de la poésie lyrique en particulier; Les genres en poésie; De la tragédie; De la musique) indicate the scope of the undertaking, which obviously cannot be summarized here in any detail. Of particular interest and value is the consistency with which the author keeps before his reader the fundamental idea of Schopenhauer's æsthetics: the revelational character of all true art, piercing through illusion and disclosing to man the wretched futility of existence.

The results of the analytic inquiry of the first fourteen chapters are synthetized in the fifteenth, and the book closes with a plea for the vitality of Schopenhauer's doctrine. Interesting traces of Schopenhauerism in recent impressionistic art are pointed out, and Schopenhauer's own poetry and musical tastes are touched upon, especially his relation to Wagner.

It is not the reviewer's province to criticize here Schopenhauer's theory of art, or to pass judgment on Dr. Fauconnet's championship of it. To be sure, the non-Schopenhauerian reader will justly object to the way in which the author is content merely to explain Schopenhauer's preference for classic to Gothic architecture: because the Gothic cathedral is false, in conveying an illusion of the triumph of rigidity over gravity, whereas the Greek temple truly manifests the conflict between these two forces, *which, rather than symmetry*, is the essence of architectural art, as Schopenhauer views it. For Dr. Fauconnet almost commends Schopenhauer's consistency, instead of condemning the heavy price paid for it, his subordination of the truth of æsthetic experience to the technical demands of his doctrine. Again, one may well doubt if, in the chapter on tragedy, the evidence which the author marshals from ancient and modern drama in defence of his master uniformly sustains his master's thesis. Schopenhauer's own musical oddities, also, are abundantly recognized,—his passion for the flute and Rossini, his failure to recognize in Wagner a composer, his utter neglect of Bach, the part he assigns to melody and his general treatment of melody,—but the bearing which these musical notions have upon the permanent value of the theory of music expounded by the man who held them could profitably be discussed at greater length and in a somewhat different key.

Still, it may well be rejoined, all these are an unbeliever's cavils. Between the two extremes of drastic criticism and dithyrambic praise, Dr. Fauconnet has chosen the path of sympathetic interpretation, and what he has chosen to do he has done well. As an interpreter of Schopenhauer's æsthetic doctrine, he impresses the reader with his

grasp of the least minutiæ of Schopenhauer's thought, his clarity both in analysis and in synthesis, and his keenness of æsthetic appreciation and allusion which lends conviction to many an argument in the treatise.

The abundant footnote references to Schopenhauer's works give both the Grisebach and the Deussen pagination, while a chronologically arranged bibliography adds to the value of the book; the one serious defect of its makeup is the lack of an index, for which the all-too-brief *Table des Matières* is poor compensation.

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NOTICES OF NEW BOOKS.

Hermann Lotze. I. Lotzes Leben und Werke. Von MAX WENTSCHER. Heidelberg, C. Winter's Universitätsbuchhandlung, 1913.—pp. iv, 376.

Professor Wentscher proposes in this work to give a comprehensive account of the Lotzean philosophy. The present volume, the first part of the discussion, deals with the life and works of the philosopher. The author is convinced that the life and temperament of Lotze conditioned his thinking; and so he has been at pains to study fresh original material put at his disposal, as well as the published letters, of which Falckenberg made so large use in his volume in *Frommanns Klassiker der Philosophie.* The result has much of charm. The fine, noble, warm-hearted yet reserved character of Lotze, his leanings toward poetry and art, his religious spirit, even the ill health and a certain lack of popular address, are described in their effects on his university career and his philosophical achievement. Wentscher, moreover, brings out some new points of detail: for instance, he shows that Lotze did practice medicine for a brief interval in the period between the close of his studies and the beginning of his professional labors.

Nevertheless, the emphasis of the interpretation does not fall primarily on Lotze's life as such. It is rather a thorough consideration of his writings which is here undertaken as the foundation for a reasoned estimate of the philosopher's importance. With great detail the author traces out the origin of the various Lotzean treatises and analyzes their contents. Not only the major works and the more significant of the shorter papers, but reviews, announcements, are discussed, in fact practically everything that Lotze produced is described, and generally with careful fulness. The one exception is that certain of the more important constructive works—the ninth book of the *Microcosmos*, the "System" of 1874, '79, etc.—are reserved for complete analysis in Wentscher's concluding volume. But even these are here summarily considered; while, apart from them, nothing of importance is neglected. Thus, in connection with the life, we are shown the origins of doctrine in the relation to Weisse and Idealism, on the one hand, as to Herbart on the other; the progress motived by Lotze's appreciation of natural science and of scientific method; the development of his own thinking and the changing emphasis of his published discussions occasioned by the mid-century swing toward materialistic views; finally, the culmination of his system and of his influence in the works of his later decades. The history thus outlined contains much of interest for those who would understand the development of opinion in the nineteenth century. It is also significant for the thought of to-day; for, in spite of the intervening progress, many of Lotze's conclusions bear constructively on present problems. Professor Wentscher, too, has approached his task with

fulness of knowledge as well as warm sympathy. If the second part of his discussion succeeds as well as the first, we shall be in his debt for a real contribution to the subject.

It may be questioned, however, whether his work would not benefit by condensation. The present volume is "personal and historical," the next is to be "systematic and critical." Here in itself there is room for reduplication of statement. And in the part already published the reader, at least the non-German reader, finds repetition and detail which burden rather than aid the narrative. The discussion would advance more successfully, the total effect would be more definite, if to the facility and clearness of his style the writer had added conciseness.

A. C. Armstrong.

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A Constructive Basis for Theology. By James Ten Broeke. London, Macmillan and Company, 1914.—pp. ix, 400.

This scholarly volume is another indication of the growing interest among philosophers in problems of a religious nature and of the growing feeling among theologians that a serious restatement of religious dogmas is necessary if religion is to make its appeal to the twentieth century. The author does not claim to have presented any novel views concerning either religion or philosophy; in writing the book he has not had primarily in mind the mature philosopher or theologian. Rather is his purpose to direct towards a saner view of the nature of religion itself the thought of those interested in religious problems, and to suggest in what manner contemporary thought may be said to support religious faith and aid in the solution of its problems. The spirit in which the book is written is "that of reverence for the Christian faith in its past and present forms, and of desire to contribute to its establishment" (pp. v–vi).

The scope of the volume may be indicated by the following brief summary of its contents. It is divided into three parts. Part I is entitled, The Origin and Development of Christian Theology; Part II, A New Philosophy as a Constructive Basis of a New Theology; Part III, Contemporary Thought as a Constructive Basis for Theology. "Part I presents an outline of the chief movements in speculative thought preparatory to the rise of Christian theology and the general course of its development to the Reformation. Part II shows how a new philosophy and a new theology sprang from the adoption of the principle of the Reformation. This second part is not intended for the philosopher or theologian as such, but for those who have long clung to the ancient Christian doctrines and are beginning to feel that they are in a language that is foreign to the modern spirit. . . . Part III assumes that the theology of to-day should be the utterance of the religious consciousness which reflects the period in which we live, and endeavors to outline some of the contributions which modern science, especially psychology and philosophy, make to theology" (pp. 8–9).

From this summary it appears that the first two parts are largely historical, and that the main thesis of the book finds its expression in the third part. The third part is, therefore, of chief interest to the reader. Its appeal is primarily to neo-Hegelian idealism as the point of view in contemporary thought which most clearly supports the fundamental doctrines of the Christian faith, although pluralism and pragmatism are not overlooked. Its aim is "to direct attention to some phases of the intellectual life of the present that seem to make it possible to construct a Christian theology that will meet some of our needs, though the formulation of such a theology itself is not here undertaken. . . . Four thoughts have been helpful guides in the discussion, namely: unity amidst the complexity of intellectual and spiritual life both individual and social, indeed, of reality as a whole; development with progress in some sense, at least within the whole if not of the whole; an end of some sort that, lacking better terms, may be called the kingdom of God, which, according to Ritschl's impressive thought, is the only conception capable of unifying the natural and spiritual worlds; lastly, the idea of knowledge as functional and teleological, not as an end in itself but as a part of the whole self-conscious experience to which it ministers, and, as such, a factor in the end" (pp. 249–250).

The book is a notable contribution to the religious literature of the day. It is a sane and searching discussion of the fundamental problems of the Christian faith by one well versed in the history of the development of thought. It should prove helpful to the general reader and the theological student alike: to the former, by showing him that there is an inseparable connection between religion and the very best thought of a people; to the latter, by reminding him that religion cannot successfully identify itself with a faith that is synonymous with blind credulity, that it must finally justify itself at the bar of reason or be cast 'as rubbish to the void.'

G. W. CUNNINGHAM.

MIDDLEBURY COLLEGE.

Religion und Wirklichkeit. Von FRIEDRICH KARL SCHUMANN. Leipzig, Quelle & Meyer, 1913.—pp. 152. Geh. M. 4.80.

The point of departure for a theory of religion is the simple pre-scientific experience of the religious person in which the objective existence of God is assumed without question: the touching of the soul by the religious object is immediately felt. A Consciousness, not a Thing, is the Object making the relation possible: in no sense is the reality of devotion dependent upon man: it works in him, revealing itself in dreams, voices, and prophesy during primitive ages, later embodying itself in the more enduring God-consciousness of the religionist and the sense of union familiar to the mystic.

A first claim of religion is the reality and independence of its object, and a competent philosophy or science of religion must keep this claim in the foreground. Once the primary data are recognized it is possible to explore and interpret the material found in anthropology, history, and biography. Any

explanation of religion in its existential aspects from the angle of a subjective descriptive psychology is in itself nothing but phenomenalism. Dr. Schumann impeaches the tenability of the conclusions of contemporary American psychologists of religion on the score that they ignore the cleavage between the standpoint of psychology and the standpoint of a fundamental philosophy. William James especially is open to the charge of failure to separate the psychological from the ontological (p. 14), and his relativism is not removed by calling in the 'subconscious' (p. 147).

Deductions of the nature of religion by means of the traditional schematism of the categories or the hypotheses of the social and historical sciences have failed. The writer undertakes to uphold these contentions by a detailed analysis of the philosophies of religion offered by Troeltsch, Natorp, and Simmel. Troeltsch cannot connect his theory of knowledge with the deliverances of immediate religious devotion. Natorp's doctrine of feeling is sharply assailed. In view of the fact that some American writers agree with Simmel's sociological assumptions, the criticism of Simmel is timely. A distinction is made between those rites and beliefs which are secondary and the experiences which are direct manifestations of spiritual agency. Applied to the religion of primitive folk, this view implies that there is a flaw in the logic of those who aver that since economic pressure and instinct build up ceremonial and group-consciousness *therefore* the religious attitude in its purity is made of the same stuff (pp. 133–138).

The sub-title of the monograph, "Critical Prolegomena to a Philosophy of Religion," allows the reader to explain what seems to be disproportionate treatment of the several issues involved. A projector of prolegomena is likely to stress the items which in his judgment are of strategic importance. Considerable space is used to exploit the minutiae of adverse criticism, with the result of obscuring the writer's positive convictions. Several passages refer to mysticism (pp. 27–29, 107), but with no intimation of what the essential characteristics are taken to be and no indication of the proper criterion to employ in interpreting the reports of the mystics themselves. Just what is meant by the *subject* or *self* in relation to the *alter* is left indeterminate.

The merit of the case against 'psychologism' in the determination of the deeper significance of religion obviously depends upon what psychology is conceived to be. Dr. Schumann does not see fit to inquire into the changing standpoint of the 'functional' and 'behavior' psychologies in its bearing on the meaning of the moot term *wirklichkeit*.

E. L. Talbert.

University of Cincinnati.

The Problem of Religion. By Emil Carl Wilm. Boston, New York and Chicago, The Pilgrim Press, 1912.—pp. xii, 240.

The author gives the following statement of his purpose: "To trace out, in a way which would be fairly consonant with our present knowledge, and satisfactory to my own scientific conscience, the natural implications of our com-

mon and our scientific experience with a view to seeing what justification could be given for a religious conception of the world, independently of revelation, or of any cabalistic source of religious truth" (p. vii). This he hopes to do in a manner "as free from the subtler technicalities of scholarship as possible" (p. viii). His attitude to religion is that it is "capable of some sort of justification" (p. viii), and that its justification can be maintained on "philosophical and reflective grounds" (p. 19). To this end, "no discussion of religion will prove entirely adequate. . . which does not begin with a frank and free investigation of the very place and validity of the religious consciousness itself" (p. 20). Indeed, "the only valid source of religious truth, then, is philosophy" (p. 48).

The list of chapter headings is suggestive of what the author regards as the distinctive problems of religion. In the introductory chapter, on "The Present Religious Situation," he seeks to determine the conditioning factors in the religious unrest of the present. The second chapter, on "The Nature of Religion and its Relation to Philosophy," deals with the questions of the definition of religion, the sources of religious truth, matter and spirit, and mechanism and teleology, the two latter questions being continued in and forming the argument of the third chapter on "Materialism and Idealism." Of idealistic systems, Berkeley, "whom many regard as the first and greatest of modern idealists" (p. 62, Preface, p. xiii) is taken as the type. Essentially the same discussion continues through the fourth chapter under the title "The Scientific View of Nature: Mechanism and Teleology." The remaining four chapters, with titles, "The Value of Life; Optimism and Pessimism," "The Shadow of Death," "Religion and Morality," and "The Religion of the Future," indicate that further attempts at specifically scientific statement of problems have been abandoned.

The attempt to treat in a popular way of subjects in which the 'scientific conscience' can lay claim to satisfaction has some peculiar difficulties which it seems Professor Wilm has not entirely overcome. The 'scientific conscience' demands, especially at points where problems become most acute, a technically exact statement, even though that statement should not satisfy all the æsthetic requirements of form. And failure to recognize this fact leads to a reversal of method, as is illustrated by the fact that Professor Wilm seems to regard the optimistic attitude as the fundamental norm of religious experience. But to make optimism the presupposition of religion may be questioned both on historical and philosophical grounds. Optimism doubtless has an essential and intimate relation to religion, but from the historical point of view it may be seriously doubted whether any significant religious system has been determined in its development by the optimistic attitude. Besides, from the point of view of philosophical method, any attitude is justified only when it appears as a result of a rigid process of reflection. Religious optimism then, if 'philosophy is the only source of religious truth,' should be the fruit of philosophical reflection rather than the presupposition upon which a scientific statement of religious problems is made. Professor Wilm seems to recognize this, in formal

statement, at least, but the mere statement fails to bring conviction in the absence of a rigid determination of the logical relations involved, and the latter can hardly be found in his discussion.

Another matter which perhaps calls for brief mention is the position occupied by the problem of happiness in the theory of religion. Neglecting the author's formal definitions of religion as 'simply optimism' or 'theistic optimism' (pp. 29–30 and note), the general conception of religion as value becomes decidedly problematical when value is interpreted in terms of happiness (p. 117). The author here adheres to his determination to avoid the technicalities of scholarship, especially when he flatly refuses to 'argue' the questions of hedonistic ethical theory which seem to be involved (p. 117 note). But if religion is a matter of happiness, then some theory of happiness would seem properly to form an essential part of the discussion.

Professor Wilm's book can scarcely be regarded as a contribution or even as a summary of the work at present being done in the field of religious inquiry, yet it represents perhaps the most wide-spread of religious attitudes. Besides these qualities of wide appeal, the book shows unusual qualities of style. In fact, freedom and ease of style seem to help over many a difficulty which would be more apparent if the author had confined himself to a more severely scientific form of expression.

E. JORDAN.

BUTLER COLLEGE.

From Religion to Philosophy. By FRANCIS MACDONALD CORNFORD. London, Edward Arnold, 1912.—pp. xx, 276.

Against the common assumption that religion and philosophy represent two distinct provinces of thought, between which there is supposed to be some sort of border warfare, the author of this book suggests the possibility of regarding them as "two successive phases, or modes, of the expression of man's feelings and beliefs about the world; and the title of this book implies that our attention will be fixed on that period, in the history of the western mind, which marks the passage from the one to the other" (p. vii). The transition from religion to philosophy took place among the Greeks about six centuries before our era, and the point which the author wishes to prove in this connection is that the advent of the new spirit of rational inquiry "did not mean a sudden and complete breach with the older ways of thought" (p. vii). Within this early period two traditions, the 'scientific' and the 'mystical,' are recognized in Diogenes Laertius' grouping of the two successions of philosophers into Ionian and Italiote. These two tendencies are represented by Anaximander and Pythagoras. But the fundamental aim and point of view of the two traditions are essentially different. The one, driven by a need of mastering the world by understanding it, seeks its goal in a "perfectly clear conceptual model of reality, adapted to explain all phenomena by the simplest formula that can be found" (p. viii); the other, determined by certain beliefs about the nature of the divine and the destiny of the human soul, yet holding no less

strongly than the scientific tradition to the characteristically Greek conviction that the world must be rational, expresses its deepest purpose in such concepts as 'God' and 'Soul.' But both points of view give evidence of an origin in an earlier and primitive religious attitude to the world. "Behind Anaximander stands the Ionian Homer, with his troop of luminous Olympians; behind Pythagoras we discern the troubled shapes of Orpheus and Dionysus" (p. ix). But there is a real continuity between the earliest rational speculation and the religious representation that lay behind it.

The book contains six interesting chapters, and the author's manner of treatment is scholarly and clear, and throws much light on the concepts of early Greek thought. In the first chapter, the Greek notion of Destiny (*Moira*) is analyzed, showing the persistence of this conception from its earliest formulation in Hesiod and Homer and Anaximander, on through Greek science, to its final formulation in modern science as Natural Law. The second chapter records the author's "rash excursion" into a hypothetical reconstruction of the pre-Homeric Greek world. As a guide here is taken the principle laid down by the new French school of sociologists, "that the key to religious representation lies in the social structure of the community which elaborates it" (p. x). A discussion of the concept of 'the nature of things,' or *Physis*, occupies the third chapter. Here *Physis* is shown to be a representation of the social consciousness (p. 191), out of which, regarded as a material continuum, and with the attributes living and divine, are progressively but unconsciously carved the concepts of individuality, God, and Soul. The same concept regarded as the Datum of Philosophy, furnishes the subject matter of the fourth chapter. The fifth and sixth chapters deal respectively with the two dominant traditions of Greek philosophy, the scientific and the religious.

The work as a whole is an extremely interesting and suggestive account of early Greek conceptions. The relations between the religious and the philosophical significance of these conceptions are worked out in a way which is thoroughly ingenious and which attempts to show that the philosophical interpretation of the relation of ultimate reality to the world of sense experience is determined by the older religious conception of the relation of God to the human group or Nature (p. 135). The discussions of the early Greek philosophical systems are instructive.

E. JORDAN.

BUTLER COLLEGE.

Bergson and Romantic Evolutionism. By A. O. LOVEJOY. Berkeley, University of California Press, 1914.—pp. 61.

The two lectures comprising this volume are written in a style at once clear and vivid (the qualities are by no means always united); and the strains of thought are admirably differentiated, the points of criticism and exposition expressed with clearness and frequently with wit. The illustrations from literature, ranging from Dante to Bernard Shaw, are unusually suggestive. The point of view which the author takes is that of neither disciple nor an-

tagonist; his two-fold object is, first, to point out certain general inconsistencies in Bergson's positions, and, secondly, to show his historical relation to the philosophy of nature and of religion developed by the German romanticists. Bergson's theory of time is of fundamental importance. It is not, however, by his confused notion of duration, but by his belief in the difference which time makes in the constitution of reality, that Bergson is a temporalist. His derivation of freedom from the newness of each moment of time involves a confusion of existential uniqueness with qualitative novelty; the former would not be incompatible with repetition of content. Bergson's real argument for freedom depends on the survival of the past in memory, whereby accumulation is substituted for mere succession. The logic of Bergson's procedure, Professor Lovejoy suggests, would lead him directly from this significance of memory—for, in the sense that every event leaves an impression, that the advance of time makes a difference, memory might conceivably pertain to the whole universe—to the theory that new reality is constantly being added to the cumulative experience of the universe. The introduction of "*élan vital*" into this biological indeterminism raises a difficulty in the treatment of matter, which is regarded as a fiction of intellect and then as a serious obstruction to the life-force which nevertheless produced it. After these criticisms of duration and "*élan vital*" in relation to creative evolution, Professor Lovejoy shows that evolution, in the middle of the nineteenth century identified with mechanism, was in its earlier development anti-mechanistic. The ultimate reality of motion, the creative efficacy of time, the interpenetration of the moments of pure duration, the life-force, our oneness with it, and the resistance offered by inert matter, are all found in the writings of Jacobi, Schelling, and Schopenhauer. Bergson's philosophy of nature is, therefore, not an innovation, but a revival of the earlier form of evolutionism. The relation of our temporal experience to God implied by romantic evolutionism is the denial of any perfect and eternal reality either as source or goal of our incompleteness. The force of which we are a part, which we may call God, is in the making. Though Bergson inconsistently explicitly declares his belief in a transcendent deity, prior and external to the evolving world, the real tendency of the religious implications of his romantic evolutionism is towards temporalistic pantheism.

NANN CLARK BARR.

Humanitaires et libertaires au point de vue sociologique et moral. Par ALFRED FOUILLÉE. Paris, Alcan, 1914.—pp. ix, 209.

This little volume of critical studies is the second work of Fouillée's that has appeared posthumously, bringing the total list of his books up to thirty-four. The three essays that form the main portion of the work, *La morale libertaire*, *La morale humanitaire*, and *La morale des idées-forces*, along with an introductory essay, *La sociologie, science theorique et pratique de l'humanité*, and an appendix consisting of an address delivered in London in 1911 on *Le rapprochement des races au point de vue sociologique*, were collected by Madame Fouillée and edited by her grandson Augustin Guyau. In the first essay,

Fouillée shows the insufficiency of the individualistic anarchistic view of ethics, as held by libertarians from Proudhon to Nietzsche. Even the philosophy of "intense and expansive Life," propounded by Guyau, fails to justify the individualistic point of view. For in going beyond himself, as this expansive 'Life' compels him to do, the individual is inevitably merged in the whole. The libertarian point of view must finally be given up in favor of one which includes the humanitarian. Just so, the humanitarian point of view is equally inadequate by itself. The sociologists and utilitarian moralists who place society above the individual forget that society depends upon individuals and that there could be no abstract conception of humanity, were it not for the personal values of the conceiving individual. The third essay presents the synthesis of the two points of view criticized in the other two essays. In *La morale des idées-forces* Fouillée propounds an ethics of *désinteressement*, which is at once 'personal' and 'universal.' The ego being inseparable from the non-ego in our thought, we can never isolate ourselves from others, as the libertarians would have us do. But morality being dependent upon the intelligence and will of the individual, it can never be a mere development of customs or manners, as sociology would teach. The ethics of *idées-forces* seeks the springs of morality in the *volonté de conscience*, which is both personal and impersonal, both subjective and objective.

The introductory essay and the address which serves as an appendix are further examples of Fouillée's application of the concept of *idée-force* to sociology. In the first of these he shows how sociology depends upon psychology: "The ultimate forces which act upon humanity, and, through reciprocal reaction, engender social laws, are the individual minds which constantly influence each other." (p. 11.) In the appended essay, *Le rapprochement des races*, we find the fitting conclusion of Fouillée's sociological and ethical studies in the statement: "The future belongs not to Anglo-Saxons, Germans, Greeks, or Latins, not to Christians or Buddhists, but to the wisest, the most industrious, and the most moral." (p. 209.)

ALMA ROSA THORNE.

Forma i Otnoshenie (*Form and Relation*). A Contribution to the Theory of Knowledge. By DIMITRI MICHALTSCHEFF. Vol. I. Published by the University of Sofia, Bulgaria, 1914.—pp. 760.

Bulgaria joined the family of nations only thirty-six years ago; yet she is today contributing actually as many names to the "Who's Who in Science" as all her Balkan neighbors put together. This original treatise indicates Bulgaria's growing interest in philosophy, already roused by translations of standard works. A brief notice of it may not be out of place here, aside from the suggestiveness of the book as showing some currents of philosophic thought in "a region of war-correspondents." For the author's German work *Philosophische Studien: Beiträge zur Kritik des modernen Psychologismus* has been noted on two different occasions in this *Review* (Vol. xix, 3, pp. 323–327; 5, pp. 497–499).

Michaltscheff's main thesis is to prove that the doctrine of form owes its importance in the history of epistemology to a wrong conception of the gnoseological problem, and that a right understanding of the rôle played by relations in the process of knowledge would show the doctrine of form to be only a means of hiding the logical defects of a fallacious train of thought.

In the present volume, he traces the logical and historical genesis of the doctrine of form, and its bearing on the notion of relations. His historical inquiry, covering the entire course of philosophic thought, leads him to the conclusion that the problem of relations can be answered satisfactorily only by freeing it from the confusion of the image-copy theory of knowledge. And this confusion will vanish when we cast aside the notion of subject-object opposition, when we abandon the question: How the subject comes to have its objects, etc. The whole problem must be attacked from a different angle: I find the world given as a causal unity, in which I find material things as spatial individuals, and consciousness as something non-spatial—what sort of unity, then, is matter, what sort of unity is consciousness, what sort of unity is the causal unity, and so forth.

In terms of this newer method the author proposes, in a second volume, to answer positively the question as to the nature of the relations and their place in the process of knowledge. Michaltscheff's general point of view can be well understood by the reader of his German volume referred to above: it is the immanental point of view of Johannes Rehmke, who has found an energetic disciple in this young Bulgarian philosopher.

RADOSLAV A. TSANOFF.

THE RICE INSTITUTE, HOUSTON, TEXAS.

The following books also have been received:

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Religious Confessions and Confessants. By ANNA ROBESON BURR. Boston and New York, Houghton Mifflin Company, 1914.—pp. 562.

The Soul of America. By STANTON COIT. New York, The Macmillan Company, 1914.—pp. x, 405. $2.00.

The Problem of Individuality. By HANS DRIESCH. London, Macmillan and Company, 1914.—pp. vii, 84. $1.00.

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Friedrich Nietzsche. By GEORGE BRANDES. New York, The Macmillan Company,—pp. 117. $1.75.

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The Great Problems. By BERNARDINO VARISCO. Translated by R. C. Lodge, New York, The Macmillan Company, 1914.—pp. 370. $2.75.

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SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology*; *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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Bul.* = *Psychological Bulletin*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mèt.* = *Revue de Mètaphysique et de Morale*; *Rev. Nèo-Sc.* = *Revue Nèo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *Rev. de Ph.* = *Revue de Philosophie*; *R. d. Fil.* = *Rivista di Filosofia*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

L'unità dello spirito, e la morale. B. VARISCO. Riv. di Fil., VI, 3, pp. 265–273.

A physical law is immediately conditioned on a given ensemble of factual circumstances, but reduces finally to an unconditional law. Thus a piece of wood floats in water and sinks in air in obedience to the same law of gravitation. A moral law is similarly conditioned by custom, and it is worth while to inquire whether there is also an unconditional law above custom, and if so, what it is. The striking fact of psychic growth in connection with the development of the value scale is the progressive unification and organization of the mental life. Value is for the child mere blind impulse, or inheres only in momentary pleasures or pains. With the apprehension of causation comes that of a new kind of value called utility; with further abstraction, truth becomes a value, and complete self-consciousness brings appreciation of activity and liberty. A will presupposes unification of psychic activities. But a higher unity is progressively perfected at the same time, that of the plurality of subjects in society. Here morality first appears. This spiritual unity, or common human nature, the realization of which by each is conditioned upon its realization by all other subjects, is the unconditional moral law beyond custom. But the unity is never an identity; subjects remain individual and always in a way opposed. And in this opposition consists the vital energy of the human world, and the possibility of progress. The opposition is permanent; it cannot even be called a harmony in the sentimental or mystical sense; it is moral evil. We involuntarily think of the elimination of evil as being a good, but we should recognize that it would mean the elimination of life at the same time.

F. H. KNIGHT.

Les conditions générales de la connaissance. F. PAULHAN. Rev. Phil., XXXIX, 6, pp. 531–610.

Some theory of knowledge is indispensable to all philosophy; to pass over it is only an easy way of assuming one without discussion. This branch of

inquiry has been dominated by the opposition of subject and object, and the present article is an examination of this opposition and an attempt to determine its meaning and bearing. Pure objectivism (naïve realism) and pure subjectivism (subjective idealism) have both found numerous defenders; but neither position can be maintained except by refusing to see its objections, and it is little better with the compromise attempted by the theory of relativity. Philosophers have neglected to state explicitly the obvious question of epistemology as to how we know knowledge itself. Since knowledge involves subject and object, the act of knowledge can only become an object of knowledge on condition that the subject is viewed as an object. On the other hand, objects are in a sense subjectively perceived, since thinkers agree that we are immediately aware of only psychic facts. Hence the act of knowing is at the same time an objectification of a subject and subjectification of an object. The apparent confusion involved leads to many difficulties. It is said that the subject known as object is no longer the knowing subject, and again, that the object is falsified in its assimilation to the subject. This would seem to make valid knowledge impossible. The pragmatic solution of the problem is theoretically tenable, but men refuse to remain consistent pragmatists, and insist on regarding intelligence as a function of knowing truth. The problem is further complicated by the consideration that the subject which knows is also the subject which feels, appreciates, evaluates. The two operations are apparently independent, truth and value affecting each other little or not at all. Yet they are inseparable, for a value is after all a fact, and truth is also a value, which may take precedence of and dominate all other values. The history of the development of the mind adds further interesting considerations. With the growth of self-consciousness, the object becomes more definite and clear, and intelligent action replaces instinctive or emotional. Before this process even becomes complete, however, it is reversed, and unconscious automatism progressively replaces intelligence. The object and subject may be regarded as both real, but unknowable separately, while the subject as subject is unknowable in any sense. The correspondence of knowledge with reality is conditioned upon and proportional to an inherent similarity of the knowing and the known, so that neither is distorted by their mutual assimilation. The intellect, it must be remembered, has two functions; it serves to direct action as well as to know truth; which of these is to be regarded as paramount seems to be a matter of individual temperament. We must also attribute to it a creative function, thus finding place for the idées-forces of Fouillée. And finally, it manifests a tendency to disappear after reaching a maximum development, in accordance with a law of evanescence.

F. H. KNIGHT.

Psychische Kausalität und Willensakt. E. BLEULER. Z. f. Psych., LXIX, 1 u. 2, pp. 30–72.

The view that psychology is opposed to other sciences in that it deals with subjects and not with objects, is an erroneous one. Psychology must in any

case deal to a large extent with the objective world, while it can practically dispense with introspection without any vital loss in value. Moreover, the subjective psychologist in eliminating outward observation is too apt to omit inner observation also, and succumb to the attractions of a deductive psychology. Results of such thinking have little scientific worth because the concepts from which deductions are drawn are too indefinite. This is the fatal weakness of Volkmar and the 'philosophical' psychologists. It is futile, again, to attempt to rule out animal psychology, which must be purely objective, and the same must be said of the study of any human subject other than one's self. Words describing subjective states are objective reactions as much as are mechanical motions. There are still people who maintain the theory of psycho-physical parallelism, but all are forced in practice to assume the dependence of mind (Psyche) on brain function. The relation between consciousness and brain function is significant for epistemology, but for scientific psychology it is now quite meaningless. The true subject-matter of any scientific psychology is the whole plastic reaction of the central nervous system. That is, in general, in man, the activity of the cerebral cortex; but no definite line can be drawn between merely-nervous and also-psychical function. An assumption equally erroneous with that of the peculiar character of psychology as to subject-matter is that it may be distinguished from physical sciences by the kind of causation manifested. The alleged gaps in the causal sequence of psychic phenomena are due simply to the false and artificial limitation of the field of observation. We could not expect to explain the form of a water wave from that of previous ones without taking the general surroundings into account. So also with the supposed lack of proportion between cause and effect in the psychic field. Psychic causes are of the energy-releasing, not the direct mechanical type, and the former are dominant in the whole field of biology, while as common as the latter in the physical world itself. We properly call a spark the cause of an explosion, but we would scarcely attempt to correlate the quantities of energy involved in the two. The most useful analogue for understanding psychic processes in their causal relation seems to be that of 'switching' in electrical contrivances. The most diverse and complex reactions can be made intelligible and simple by this comparison. The switching is not of course to be thought of as a direct connection and disconnection of conductors, but rather a cutting in and out of variable resistances in different paths. The switching concept is particularly useful in cases where a selection is to be made between conflicting impulses or stimuli to different kinds of action; *i. e.*, in phenomena of will. A true act of will presupposes some kind of personality, however primitive, an organized striving or generalized tendency in action, more than the sum of individual impulses. The will is the *resultant* (not the sum) of all the centrifugal tendencies which lie in the affective states (Affekten), or it is the centrifugal side of the resultant "Gesamptaffekt." The dominant impulse 'switches in' the corresponding course of action, present or future, and 'switches out' all others. This general view of the will is frankly deterministic, but not therefore contradictory to the

concept of freedom in any practically significant sense. The 'willed' course of action is to be sure that prompted by the 'strongest' motive, because that is the way we define 'strongest'; but it is the motive of the whole person, not an individual impulse. Nor is this procedure at all peculiar to psychology; in no other field have we any means of measuring forces except by their effects.

F. H. KNIGHT.

The Need for a Modern Casuistry. H. L. STEWART. Inter. J. of Ethics, XXIV, No. 4, pp. 379–401.

This article is a refutation of Mr. F. H. Bradley's attack upon Casuistry in his *Principles of Logic*, pp. 247ff. The author shows the unreliableness of Mr. Bradley's assumptions upon which his attack was based in that there *are* cases of genuine moral perplexity, and the intuitions of conscience are *not* always clear and adequate. As examples of these 'questionable' cases we may take the feminist movement, the question of suffrage, the reciprocal relations of employers and employees, the limits of state interference with the freedom of action of the individual, sexual and family relationships, etc. These questions can not be solved apart from moral considerations. They are all moral questions, but who can lay down general rules for their solution? The verdict of conscience seems self-contradictory, for both sides of these questions are upheld conscientiously. The study of ethical principles does not make a person moral, but if any conflict arises in his moral intuitions, a study of such principles may be of great benefit to him. Moral philosophy ought to help one to settle disputed moral questions. We need an expert who gives his life to just such a field. His decisions would not be merely authoritative; they would suggest solutions to the individual in trouble. For over two thousand years moral philosophers have busied themselves with such questions of morality as have very seldom, if ever, been disputed by the common man. Now let them turn their attention to the unravelling of real moral difficulties, for which assistance the unlearned man will be exceedingly grateful.

HENRY BENTSON.

Casuistry and Ethics. G. A. JOHNSTON. Inter. J. of Ethics, XXIV, No. 4, pp. 401–418.

The prejudice against casuistry is well nigh universal. The popular prejudice is one of those unexamined presuppositions which infect all our thought with error. It is due partly to the aversion of the popular mind to everything exact, codified and systematized, partly to the mistaken belief that casuistry means Romanist casuistry, and partly to the moral laxity which has often accompanied it, but which is not an essential element in it. Philosophers have opposed casuistry because they believe that in moral questions, "reflection is a symptom of disease"; but this would condemn all ethics. Again, it is objected that a system of casuistry is impossible because no two cases are exactly alike; but this may be said of all science. There is enough similarity between

situations and conditions to warrant the existence of such a system. Bradley believes that it perverts ethics into an art of morality instead of permitting it to remain a purely theoretical science. But why must we have *either* a theoretical science *or* a perversion of ethics, an art of morality? Why not have both? There are two disciplines or sciences, ethics and casuistry, which deal with morality. They are not independent of each other; the latter is dependent upon the former. Ethics is a purely theoretical science which deals with general, abstract principles and is exact, while casuistry is a practical science which deals with inherited principles and is inexact. The principles of ethics are universal and absolute, but those of casuistry are mere general rules affected by and allowing for circumstances and conditions. These casuistic principles and rules must not be at variance with the purely ethical principles. Casuistry is the application of the general rule to the particular case, and especially the application of ethical principles to specific, perplexing problems of conduct. The present article is introductory to a subsequent one in which the author proposes to outline his own system.

HENRY BENTSON.

A Definition of Causation. IV: W. H. SHELDON. J. of Phil., Psy., and Sci. Meth., Vol. XI, No. 14, pp. 365–377.

This is the last of four articles on the nature of causation. An examination of the phenomena investigated by physics shows that all instances of causation are of two types: the composition type and the serial type, which ultimately reduce to one type, the unending, self-repeating series. All cases of causation have this common logical structure. The necessary and sufficient condition of the series is two terms in a relation of sameness and difference; the second is another case of the first with added differences. The first term is more fundamental than the second, because it precedes the second temporally and logically, defines the second, and can exist without the second. The past has an existential rank higher than that of the future; the tendency of an event is "in one certain direction," from higher to lower levels. Yet the series is impossible without the second term, for the first by itself is mere potentiality. Every cause is a potentiality plus a motion or change. The series contains necessity. Given these two related terms, and the effect, a never finished series, "of necessity and pure deduction" follows; each term implies indefinitely another case of itself. Events are necessitated by their causes; so far as there is causation, "nature deduces itself from the past." This, however, does not preclude indeterminate beginnings, which allow the universe to grow by adding new, unending series to its content. This discovery of the "objective existence of necessary connection" is the result of an empirical investigation of the content of experience. It enables us to answer Hume without having to resort to such hypotheses as the independent "subsistence" of universals or the presence of mind as a law-giver imposing its forms on nature. Although each term and relation of the series is particular, the concept of the universal may be derived from this system of two particular terms in a particular relation. The neces-

sity is not an absolute or an *a priori* necessity, but one derived from the existence of a "dyadic relation." No necessity can be derived from one term alone. Hume failed to find a "necessary connection," because he did not define "necessary connection," did not examine specific cases of causation, and treated a cause as "one" instead of "two."

RAYMOND P. HAWES.

A Definition of Value. RALPH BARTON PERRY. J. of Phil., Psy. & Sci. Meth., XI, 6, pp. 141–162.

This article is written for the purpose of opening up the subject for discussion. In it the author does not give any extended treatment of his own views; it is rather a presentation and criticism of the views held by Moore, Russell, Urban, Sheldon, Brentano, Sidgwick and Santayana, together with some stray remarks that indicate the author's own point of view. The way in which to arrive at a true definition of values is to study the particular instances, realizing however, that an instance can be no more than an approximation to the goal. Value is not indefinable nor unanalyzable for this would supplement an indefinable good with an indefinable evil. Then too, these indefinables give so little account of themselves that the phenomenon of the appearance and disappearance, the waxing and waning of values, is left totally unexplained. And finally, this doctrine of indefinability is objectionable, because it is so easy to mistake the simplicity of our own knowledge for a simplicity in the object. Value does not consist in harmony or fitness, for a thing may be 'fit' for the rubbish heap and yet be valueless. Neither can goodness be said to be identical with the formal relationship of a particular to its universal, that is, the realization of a type; for the worst specimen of a man may be the most perfect specimen of inebriety or simplemindedness. The hedonistic view of value is too narrow, for it does not take account of all of our experiences. The present day view is that value, in the generic sense, has to do with a certain constant that we may call bias or interest. The justification of this view lies in the fact that bias or interest, with its manifold varieties, conditions, and relations, affords the best means of systematically describing the region of our world which the value sciences and value vocabulary roughly denote. It is broad enough to contain a host of divergent views. Some maintain that satisfaction of interest as such is value, others deny it utterly, and still others qualify it. To the first class the author belongs. He holds that interest is not an immediate cognition of value qualities in its object, but is a mode of the organism, enacted, sensed, or possibly felt, and qualifying the object through being a response to it. To like or dislike an object is to create that object's value. To be aware that one likes or dislikes an object is to cognize that object's value.

HENRY BENTSON.

What is Religious Knowledge? C. DELISLE BURNS. Int. Jr. of Ethics, XXIV, No. 3, pp. 253–265.

In the past, knowledge which seemed vital to us was called religious. This article proposes to show that only one kind of knowledge is possible, that the

antithesis of religious and scientific knowledge rests on a mistake. It will trace the origin of the mistake and show how the antithesis came into being. Lastly it will be shown that the mistake was recognized as such through the discovery of history. Unreasonable moderation toward religious dogmas has led to the mistaken idea that there can be two kinds of truth, one to supply our emotional and the other our intellectual needs. Religious knowledge does not differ in kind from scientific knowledge. In two points religious knowledge is more effective in influencing character. Religious knowledge is more systematized and more poetically expressed; it is weak, however, in the dogmatism of its statements where there is not evidence enough to support the conclusion. "If we are still to speak of religious knowledge, this last tendency must be eliminated, and its place supplied by the courage which dares to acknowledge ignorance."

C. M. HOBART.

Social Progress and Religious Faith. EUGENE W. LYMAN. Harvard Theol. Rev., VII, No. 2, pp. 139–165.

Social progress and religious faith are often regarded as being in a semi-unfriendly relation. This view is due in the first place to the notion that religion is inherently conservative and for this reason may be obstructive. It is due in the second place to the idea that religion, since it is a relation between the soul and God, is necessarily individual. Contrary to this attitude, the writer holds that religious faith at its best is a powerful force for social progress. The earliest and most striking evidence is to be found in prophetic religion. The prophet furnishes a practical ideal for us all—a man of the highest character and clearest faith. The prophet's ideal aimed at securing righteous and humane social relations. His life with God could not hold him apart from service to men. The constructive purpose of the prophet finds expression in his ideal of the kingdom of God. Jesus universalized this ideal by making the entrance conditions not political but moral. Jesus in universalizing the religious consciousness kept together the sense of God and the social goal. The full measure of this union can not be learned merely from his teaching; His life and deeds portray the union in its most perfect form. The union of social progress and religious faith is found also in modern religious life. The development of liberal Christianity is a case in point. Missionary education is undoubtedly social in its consequences. When individual experience of religion seems to become sufficient unto itself, then the fullest and deepest meaning of religion is slipping away. The deepest experience of God is found in sharing in the work of social progress for the realization of His Kingdom. Thus religion is an active relation with the working God in His effort for social progress. God himself is actively in the midst of our social relations. The purpose of religion is to make the soul alert, resourceful, inventive. Its purest essence is found in originality and creativeness in the moral and spiritual order. This essence of religion finds expression in the promotion of social progress. Social progress needs personal religion and that intensive interest

in the individual soul which personal religion only can bring about. The appreciation of the preciousness of personality and of the need of its full development is the only adequate motive for social endeavor.

C. M. HOBART.

Ethics as a Science. CHARLES W. SUPER. Int. Jr. of Ethics, XXIV, No. 3, pp. 265–281.

This article proposes to examine the claim of moral science to be equal in rank with any other science except mathematics. Any department of human knowledge may be made a science if its data can be formulated in the causal relation. The existence of innate ethical ideas must be admitted. Every community of men always contains some individuals who recognize the binding force of an obligation. The earliest as well as the latest Hebrew prophets were vehement preachers of righteousness, and moral sentiments may likewise be found in Hesiod's *Works and Days*. A regular system of moral instruction based on the principles laid down in the Sacred Writings was begun with the organization of Christian communites. In spite of this system, poverty and its accompanying immorality continued to furnish the most perplexing problems with which governments had to contend. This was due mainly to the unscientific measures adopted for suppressing them. By means of scientific methods morality has been greatly advanced. Experience has proved that morality is largely dependent on economic conditions. A striking example of the use of science in the moral sphere is shown in the temperance movement. Science has promoted morality also in the domain of warfare. Observation and experimentation are the two foundation principles of every science. Science in its relation to physical man is indebted more to Hippocrates than to any other Greek thinker. "The scientist points the way; the moral reformer walks in it and induces others to follow him. The measure of mutual friendliness with which they coöperate is the measure of social and ethical progress."

C. M. HOBART.

The Mental and the Physical. HOWARD C. WARREN. Psy. Rev., XXI, 2, pp. 79–100.

The relation of mind and body is the Wandering Jew of science. This paper will show that the most satisfactory explanation of this relation is the double-aspect view, that this explanation enables us to treat the objective data of psychology from a mechanistic standpoint; also that it leads to a two-aspect psychology—a psychology of introspection and of behavior. This explanation has suffered from the lack of a suitable analogy. The surface-mass relation of matter is analogous to the mind-body relation. Conscious activity and nervous activity are neither causally related nor parallel. They constitute one process which may be observed in two ways. This theory adds simplicity to the genetic problem of consciousness, for we can assume that consciousness pervades the whole organic world. In Biology the debate is between mechan-

ism and vitalism. The present evidence justifies the mechanistic interpretation. Psychology should assume the same attitude toward the phenomenon of choice. This interpretation changes the ethical concept of responsibility. Ethics should concern itself with the sense of responsibility which mankind actually possesses. The genesis and activity of purpose are explicable on mechanistic grounds. The difficulty has been that the philosopher, the biologist, and the common man have retained the anthropomorphic psychology of early times. Psychology has been too much dominated by introspective analysis. Introspection needs objective checking; such objective methods are essential to genetic investigation. Animal psychology is hindered rather than helped by introspection. We must study behavior. Behavior reveals the dynamic aspect best. Introspection also is a field for exact investigation. In this field modern psychology has yielded many worthy scientific results. The double aspect view would prefer to treat conscious processes and behavior processes as branches of one science. From this viewpoint, psychology might be defined as the science of the individual organism or consciousness as related to its environment.

C. M. HOBART.

Les idées directrices de la logique génétique des mathématiques. A. R. SCHWEITZER. Rev. de Mét., XXII, 2, pp. 174–196.

Two fundamentally different conceptions of the logic of mathematics are represented in the treatments of B. Russell and C. S. Peirce respectively. The former proceeds in conformity with his idea of inference, which reduces all reasoning to deduction and views induction as merely a method of making plausible conjectures, and so views mathematics as purely objective. Peirce, on the other hand, finds room for the genetic phase, for mathematics as a mental activity as well as an existence. The present discussion is methodological, and is concerned with mathematics as a science of discovery, and in particular with the use of the "working hypothesis" in this field. A working hypothesis, or *idée directrice* is essentially a mediator between two terms in disaccord, which is also the final form of other logical problems and their solutions. Mathematicians have been reluctant to admit the working hypothesis in pure mathematics, to recognize that their science is in one aspect a science of observation. Hence the formal elements of problems,—terms in disaccord and mediating idea,—are not often recognized in mathematical discussions. These elements are always present, however, and their recognition is becoming more and more explicit. E. H. Moore was the first to give them clear expression. The mediating concept corresponds, too, to the *leitende Idee* of Grassmann. In general terms, the problem is that of the discovery of relations, and the various logical conceptions of the nature of relations in the works of thinkers generally shed light on the issues involved. There is always a close relation between the mediating idea and some value, a fact which has been especially emphasized by James and the pragmatists, though clearly stated by Mill. The method of mediation must depend in large

measure on the purpose to be served by relating the terms in disaccord. The discussion leads to the conclusion that the mediating concepts of mathematics are ultimately the same as those of other disciplines. The most important ones to be noted are the Principles of Comparison, of Continuance, of Economy of Thought, and of Special Situation,—the last more especially mathematical in character. All reduce ultimately to the principle of comparison.

F. H. KNIGHT.

Le socialisme de Fichte d'après l'État commercial fermé. X. LÉON. Rev. de Mét., XXII, 2, pp. 197–220.

Fichte's "Closed Commercial State" is first of all a protest against mercantilism. It regards the balance-of-trade ideal as based on the love of gold for its own sake, which is the arch corruptor of states as well as individuals. Fichte's great ideal was liberty; but he saw that perfect economic freedom would lead to the worst oppression, to civil war and probably to the establishment of tyranny. Hence his aim was to incorporate individuals in an organic society where their liberties would not conflict but would be ordered in harmony, and where moreover, the moral personality might find fullest expression. To assure to all the means of subsistence and enable them to participate in the higher life of the spirit, was the lofty ideal of his socialism; and the dignity of personality and respect for moral values shine forth from nearly every page of his book. A careful investigation shows good reason for believing that Fichte was directly influenced by the socialistic propaganda of Babeuf and the course of events accompanying the French Revolution. There is a remarkable parallelism between the theories of Fichte and those announced before him by Babeuf in regard to money, the regulation of commerce and the general administration of the ideal state; while the publication in Germany of numerous letters from Germans living in Paris at the time, gave him abundant means of becoming conversant with the latter's doctrines. Babeuf, however, was communistic in his equalitarianism, Fichte strongly individualistic; Babeuf was interested in the happiness of the people, Fichte in their spiritual life. The most striking evidence of French influence is found in Fichte's adoption of the "natural boundaries" idea which was the slogan of the revolutionary leaders. The economic changes incident to the Revolution and the legislative measures which the Convention was constrained to take to meet the new conditions also shed much light on the growth and the influence of the theories of Babeuf and Fichte. It would be going too far to call Fichte the precursor of modern German socialism. At any rate, he foreshadowed rather the bureaucratic, paternalistic "state-socialism" of Bismarck than the internationalism of the Marxians.

F. H. KNIGHT.

On the Nature of Acquaintance. BERTRAND RUSSELL. The Monist, XXIV, 2, pp. 161–187.

This article is the second of a series that appears under the above title. It is a criticism of the later philosophical point of view of James and of Mach,

which is here called Neutral Monism. Neutral monism is the theory that the things commonly regarded as mental and the things commonly regarded as physical do not differ in respect of any intrinsic property possessed by the one set and not by the other, but only in respect of arrangement and context. Ideas are not mental duplicates of the physical order; they are identical with it, but considered in its mental context. The word consciousness does not stand for an entity but rather for a function; it connotes a kind of external relation and does not denote a special stuff or way of being. There is only one primal stuff or material in the world, and we call this pure experience. Thus knowing can be explained as a particular sort of relation towards one another into which portions of pure experience may enter. Knowing is an external relation between two bits of experience, consisting in the fact that one of them leads to the other by means of certain intermediaries. An experience may know itself in certain circumstances. The knower and the known are either (1) the selfsame piece of experience taken twice over in different contexts; or they are (2) two pieces of actual experience belonging to the same subject, with definite tracts of conjunctive transitional experience between them; or (3) the known is a possible experience either of that subject or another, to which the said conjunctive transitional would lead, if sufficiently prolonged.

Against this theory the author urges four chief objections (a fifth will appear in the next article). He shows that the theory is a protest against the view that external objects are known through the medium of subjective "ideas" or "images"; not directly, but in the sense at least that whatever I experience, must be part of my mind. His objections are: 1. That between for instance a color seen and the same not seen, there seems to be a difference not consisting in relations to other colors, or to other objects of experience, or to the nervous system, but in some way more immediate, more intuitively known. This would make a mind of only one experience a logical impossibility. Furthermore, this philosophy can not define the respect in which the whole of my experience is different from the things that lie outside of my experience. 2. The theory assimilates belief and judgment to sensation and presentation which when applied to error makes it "belief in the unreal," or admission of the existence of unreal things, which is a contradiction. 3. The thought of what is not in time, or a belief in a non-temporal fact, is an event in time with a definite date, which seems impossible unless it contains some constituent over and above the timeless thing thought of or believed. 4. It refuses to regard immediate experience as knowledge. It speaks of knowledge as consisting in the presence of other things capable of leading to the thing which these other things are said to know. It is knowledge of things rather than of truths, and the knowledge of things is really a knowledge of propositions in which the object is not even a constituent.

HENRY BENTSON.

NOTES.

We give below a list of articles in current philosophical magazines:

THE HARVARD THEOLOGICAL REVIEW, VII, 3: *Ernst von Dobschütz*, The Lord's Prayer; *Anna Garlin Spencer*, Marriage and Social Control; *Albert R. Vail*, Bahaism—A Study of a Contemporary Movement; *William Walker Rockwell*, the Jesuits as Portrayed by non-Catholic Historians; *Ralph Barton Perry*, Contemporary Philosophies of Religion; *Albert Léo*, The Churches of France and their Separation from the State.

THE HIBBERT JOURNAL, XII, 4: *A. D. M'Laren*, Creeds, Heresy-Hunting and Secession in German Protestantism To-day; *J. M. Thompson*, Post-Modernism; *Archibald Weir*, Criminous Clerks; *Canon Adderley*, "Sacraments and Unity"; *W. R. Inge*, Institutionalism and Mysticism; *Bertrand Russell*, Mysticism and Logic; *L. T. Farnell*, The Presence of Savage Elements in the Religion of Cultured Races; *Francis Howe Johnson*, The Higher Anthropology; *J. Agar Beet*, The Hereafter in the Bible and in Modern Thought; *James Cunnison*, On What Principle are we taxed?; *W. Montgomery*, Schweitzer as Missionary; *Cassius J. Keyser*, The Significance of Death.

THE INTERNATIONAL JOURNAL OF ETHICS, XXIV, 4: *H. L. Stewart*, The Need for a Modern Casuistry; *G. A. Johnston*, Casuistry and Ethics; *E. W. Hirst*, Absolutism and the Ethical Problem; *S. Radhakrishnan*, The Vedanta Philosophy and the Doctrine of Maya.

MIND, 91: *H. Wildon Carr*, The Philosophical Aspect of Freud's Theory of Dream Interpretation; *Howard V. Knox*, Has Green answered Locke?; *C. D. Broad*, Mr. Bradley on Truth and Reality; *Robert F. Rattray*, The Philosophy of Samuel Butler.

THE MONIST, XXIV, 3: *Calvin Thomas*, Tragedy and the Enjoyment of it; *K. C. Anderson*, The Person of Jesus Christ in the Christian Faith; *Paul Carus*, The Religion of Tragedy and the Christ-Ideal; *A. Kampmeier*, Are We Just to Jesus?; *William Benjamin Smith*, The Critical Trilemma; *Bertrand Russell*, On The Nature of Acquaintance.

THE BRITISH JOURNAL OF PSYCHOLOGY, VII, 1: *Henry J. Watt*, Psychological Analysis and Theory of Hearing; *Godfrey H. Thomson*, The accuracy of the $\phi(\gamma)$ Process; *Rossiter Howard*, A Note on Pictorial Balance; *N. Carey*, An Improved Colour-Wheel; *C. S. and Valentine Myers*, Two Cases of Synaesthesia; *C. W. Valentine*, The Method of Comparison in Experiments with Musical Intervals and the Effect of Practice on the Appreciation of Discords.

THE PSYCHOLOGICAL BULLETIN, XI, 7: *G. M. Stratton*, Visual Space; *H. D. Cook*, Tactual and Kinaesthetic Space; *H. Carr*, Space Illusions; *G. M. Whipple*, Psychology of Testimony and Report; *W. D. Scott*, Suggestion; *F. N. Freeman*, Tests; *E. P. Howes*, Aesthetics.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XXV, 3: *G. Stanley Hall*, A Synthetic Genetic Study of Fear; *William Silliman Foster*, On the Perseverative Tendency; *E. B. Titchener*, An Historical Note on the James-Lange Theory of Emotion; *Samuel W. Fernberger*, Note on the Affective Values of Colors.

THE AMERICAN JOURNAL OF THEOLOGY, XVIII, 3: *Douglas Clyde Macintosh*, The New Christianity and World-Conversion; *Eugene W. Lyman*, Must Dogmatics Forego Ontology?; *David S. Schaff*, The Formulation of the Fundamental Articles of Faith; *Ernest D. Burton*, Spirit, Soul, and Flesh. III. In Greek Writers from Epicurus to Arius Didymus.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, XI, 15: *Addison W. Moore*, Isolated Knowledge. XI, 16: *Arthur O. Lovejoy*, Relativity, Reality and Contradiction; *G. A. Tawney*, Transcendentalism and the Externality of Relations; *Gustave A. Feingold*, The Fitness of the Environment for the Continuity of Consciousness.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, XX, 2: *Albert Sichler*, Zur Verteidigung der Wundtschen Psychologie; *Theodor Rudert*, Zum Problem der Psychologie und des Monismus; *Hans Prager*, Über die erkenntnistheoretischen und metaphysischen Grundlagen der Rechtsphilosophie; *F. Juran*, Ursprung und Gegenstand der Erfahrung; *Eugen Minkowski*, Inhalt, symbolische Darstellung und Begründung des Grundsatzes der Identität als Grundsatzes unseres Vorstellens; *A. Coralnik*, Die Philosophie der Fiktion; *Achille Marucci*, Una nuova classificazione dei fatti psichici.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, XXVII, 4: *A. Mager*, Der Begriff des Unstofflichen bei Aristoteles; *Willy Schink*, Kant und die griechischen Naturphilosophen; *Johannes Dräseke*, Zu Johannes Scotus Erigena; *E. Rösler*, Leibniz und das Vinculum substantiale; *A. Kempen*, Benekes Religionsphilosophie; *Walther Schmied-Kowarzik*, Friedrich Jodl, geb. 23. August 1849, gest. 26. Januar, 1914.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE, XXXVIII, 2: *Alexander Jarotsky*, Über das Problem einer individualpsychologischen Begründung einer altruistischen Moral; *Richard Müller-Freienfels*, Die Bedeutung der motorischen Faktoren und der Gefühle für Wahrnehmung, Aufmerksamkeit und Urteil. I.

ZEITSCHRIFT FÜR PSYCHOLOGIE, LXIX, 1 u. 2: *Julius Pikler*, Empfindung und Vergleich. II; *E. Bleuler*, Psychische Kausalität und Willensakt; *Gustav Tichy*, Experimentelle Analyse der sog. Beaunisschen Würfel.

ARCHIVES DE PSYCHOLOGIE, 54: *H. Lelesz*, L'Orientation d'esprit dans le témoignage: *Ch. Orier*, A propos d'un cas de contracture hystérique; *Edm. Degallier*, Horlogerie et psychologie.

REVUE PHILOSOPHIQUE, XXXIX, 6: *E. Bohn*, L'activité chimique du cerveau; *F. Paulhan*, Les conditions générales de la connaissance; *E. Bréhier*, La vérité spéculative.

XXIX, 7: *J. Philippe*, Autour du sens musculaire; *Ch. Lalo*, Programme d'une esthétique sociologique; *G. Truc*, Grâce et Foi: étude psychologique.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XXII, 4: *G. Belot*, La valeur morale de la science; *É. Gilson*, L'innéisme cartésien et la théologie; *G. Dwelshauvers*, Du sentiment religieux dans ses rapports avec l'art.

REVUE DE PHILOSOPHIE, XIV, 7: *J. Bulliot*, Jean Buridan et le mouvement de la Terre; *M. Chossat*, Saint Thomas d'Aquin et Siger de Brabant, II; *J. Maritain*, L'esprit de la philosophie moderne. II.—L'indépendance de l'esprit.

RIVISTA DI FILOSOFIA, VI, 3: *B. Varisco*, L'unità dello spirito, e la morale; *Achille Marucci*, Di alcune moderne teorie del Concetto; *A. Aliotta*, Dalla teoria dei modelli al panlogismo.

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THE PHILOSOPHICAL REVIEW.

FRENCH WORKS ON THE HISTORY OF PHILOSOPHY FROM 1909 TO 1913.[1]

FOR complete lists of titles of all works on the history of philosophy which have appeared in France during the period we are discussing, together with detailed information as to subjects treated, readers of the REVIEW are referred to the "Bibliography of French Philosophy" contained in the *Bulletin of the French Philosophical Society*. Not merely the important works but the shortest articles as well are there taken into account, and hence it will be the more permissible to note in the present sketch only those works which are of some special interest.

In view of the opinion held widely and with good right that the history of philosophy is closely bound up with that of the sciences, mention must be made of the edition of the *Scientific Memoirs* of Paul Tannery, which has been undertaken by J. L. Heilberg and H. Y. Zeuthen.[2] The composition of a history of ancient science such as M. Tannery has given us in the form of a series of special studies, involved not merely the freeing himself from the influence of traditions vitiated by arbitrary and false conjectures, but also the reading and interpretation of the most obscure and difficult of texts. To accomplish this work it was necessary to bring to the task a two-fold training, philological and mathematical, rarely indeed to be met with. His great resources in the way of scholarship, originality, and patience, have

[1] Translated by F. H. Knight.

[2] *Mémoires scientifiques* de Paul Tannery. Paris and Toulouse, 1912.—4°, pp. xix, 465.

enabled M. Tannery to reach results and to offer hypotheses which shed new light on a phase, hitherto little known, of the development of the human mind. The scope and significance of the studies have been ably set forth in a lecture by M. G. Milhaud, one of M. Tannery's most eminent disciples.[1]

Among studies of the same order as the above, mention should be made of a work which, as announced, is to assume vast proportions, and whose object is to give a history of cosmological theory from Plato to Copernicus.[2] The author of this work, M. Pierre Duhem, has already achieved considerable note through his researches in theoretical physics and studies in scientific philosophy, as well as by his work in the history of the sciences. In the first volume of the work under consideration, the author begins with an exposition, showing the keenest criticial discernment, of the Pythagorean astronomy; this is followed by a detailed study of the cosmology of Plato, both independently and in its relations to astronomical problems. He then reconstructs the physical system of Aristotle, following closely the various concepts which entered into this system and the fate which befell these concepts after the master's death. An especially interesting treatment is given of the criticism by Jean Philopon of the Aristotelian ballistics. The volume closes with a discussion showing how the heliocentric system, after issuing from the Pythagorean tradition, lacked the necessary means for further development and was doomed to disappear for a time before the astronomy of eccentrics and epicycles developed by Ptolemy. The way in which M. Duhem has executed his plan in this first volume enables us to see the admirable quality of the work he is engaged in giving us. The very possibility of carrying such a work to completion with the same breadth of learning and ability in exposition might give rise to doubt and uneasiness if the capacity for work, the versatility and the vigor of mind of M. Duhem were less well known.

We turn now to works concerned more especially and directly

[1] *Nouvelles études sur l'histoire de la pensée scientifique.* By. G. Milhaud. Paris, Alcan, 1911.—8°, pp. 235.

[2] *Le Système du monde. Histoire des doctrines cosmologiques de Platon à Copernic.* By Pierre Duhem. Paris, 1913, Herman et Fils.—8°, pp. 512.

with the history of philosophy. The papers collected and published in the posthumous volume entitled, *Studies in Ancient and Modern Philosophy*,[1] by Victor Brochard, had mostly appeared previously, but it would have been a great misfortune if they had been allowed to remain scattered. The majority, and beyond question those showing most clearly the solid scholarship and philosophic penetration of the author, are devoted to Greek philosophy. Two of these relate to the famous arguments of Zeno of Elea, strongly emphasizing their value and also offering an original interpretation of them. An article on Pythagoras and Democritus aims to establish the realistic, non-subjectivistic character of the relativism of Protagoras; another, on the work of Socrates, vigorously advocates the view that that thinker, after defining virtue in terms of knowledge, was unable to give to this formal definition an adequate substantial content and was forced to resort to somewhat vague notions of the useful and the agreeable as conceived by common sense. A whole series of excellent studies in the philosophy of Plato, more specifically on the rôle of myth in the Dialogues, the Platonic theories of love and of participation, the ethics of Plato, the *Laws*, and the theory of ideas, combine to present to us a clear and sound interpretation of Platonism. And we may add that it is one equally removed from the too rigid Platonism of Ed. Zeller, and from that of certain recent exegetes who have been so carried away with the development of their systems that in the effort to revive Plato they have departed from the spirit of his teachings. Two particularly suggestive papers deal with the Stoic logic. In opposition to current expositions which represent this logic as a corruption and weakening of the Aristotelian, these discussions show that the theories of definition and of the judgment, the pre-eminence accorded to hypothetical and disjunctive syllogisms and the theory of indicative symbols, together with the nominalism which is its point of departure, give to the Stoic logic an original character which finds expression in the substitution of the idea of law for that of essence in the

[1] *Études de philosophie ancienne et de philosophie moderne.* By V. Brochard. Paris, Alcan, 1912.—8°, pp. xxviii, 559.

explanation of things. A final paper on the Epicurean theory of pleasure, indicates the place of this doctrine in the historic succession of Greek theories on the subject, and frees it from the negative character which had been attributed to it on the basis of Cicero's testimony. The writer further shows in an original way that for Epicurus the absence of pain is only a preparatory and negative condition of pleasure, which has also a positive condition in the equilibrium of the different parts of the living body; also that in a mechanistic philosophy like that of Epicurus this state of equilibrium occupies the same position as that filled by action in the finalistic philosophy of Aristotle. All the studies manifest a profound critical sense and ability to interpret the texts on the part of Brochard, even though he was not primarily a philologist.

The same gifts of philological scholarship are possessed by M. Robin, who also uses them effectively to advance the history of ancient philosophy. His study, *The Memorabilia of Xenophon and our Knowledge of the Philosophy of Socrates*[1] takes up, in a form freed from irrelevant doctrines, a view advocated in Germany by K. Joël in his book on *The Authentic Socrates and the Socrates of Xenophon*. In the character of Xenophon, in the natural disposition of his mind and in the influences and tendencies of which his work is the outcome, M. Robin finds strong reasons for the belief that the *Memorabilia* could not furnish an accurate and faithful representation of the Socratic teaching; the literary form and nature of the contents of the book are a further consideration tending to confirm such an opinion. M. Robin, it is true, does not pass judgment on the question as to whether the Socrates of the *Memorabilia* is or is not the real Socrates; he simply inquires whether the evidence affords grounds for believing that he is. On this point there seems to be considerable doubt, in spite of long-standing prejudice to the contrary. In another study, published elsewhere and of a quite different character,[2] M. Robin shows at length how

[1] *L'Année Philosophique*, published under the direction of Fr. Pillon, Twenty-first year (1910). Paris, Alcan, 1911.—pp. 1–47.

[2] L. Robin. "Platon et la science sociale." *Revue de Métaphysique et de Morale*. March, 1913.—pp. 211–255.

Platonism, so far from being frankly and naïvely utopian, was a very great and very serious effort to treat economic and social facts scientifically, to analyze and classify them and discover their laws. Even though this effort may seem not always to have been successful, that is no reason for refusing to recognize its aim. At least, Plato made a place for society in the system of nature; he was more or less clearly conscious of a distinctively social determinism; he perceived the importance of the economic factors and recognized their political influence; and, finally, he enunciated the law of the division of labor. The fact that he attributed to this law a general significance and application constitutes, perhaps, Plato's most substantial title to scientific renown. In M. Robin's work this defence and rehabilitation of the political system of Plato is supported by close argument and analysis.

In spite of their brevity, which in some instances is excessive, we must mention the collection of papers entitled *Some Remarks on the Aristotelian Conception of Substance*[1] by M. Rodier, in whose recent death the study of ancient philosophy has suffered a very sensible loss. These 'remarks' aim in particular to explain how the concept of substance, which in its perfection is the most individual reality, can be made to harmonize with the conditions of science, which require the general. M. Rodier takes the position that if there is not for Aristotle a science of the individual, it is not because it is individual, but because, when it is incorporated in sensible beings it admits contingency. Astronomy and theology reach objects at once individual and necessary. In spite of some passages of an apparently contradictory import, M. Rodier defends with energy the interpretation of Aristotelianism according to which individuation is effected by the form.

The book on Epicurus by M. Guyau[2] is clear, fluent, somewhat superficial, and certainly does not aim at a new interpretation of Epicureanism. It is otherwise with M. Bréhier's book on Chrysippus,[3] which may sometimes be reproached with a

[1] *L'Année Philosophique*, twentieth year (1909). Paris, Alcan, 1910.—pp. 1–11.
[2] E. Guyau, *Epicure*. Paris, Alcan, 1910.—8°, pp. 222.
[3] Bréhier, *Chrysippe*. Paris, Alcan, 1910.—8°, pp. 295.

certain lack of ease and literary elegance but which possesses an undeniable vigor, and the author's attempts at original interpretation are frequently suggestive. For example, the author combats energetically the commonly assumed identity between active effort and knowledge in the Stoic thought. On the contrary, he regards as a characteristic feature of the system of Chrysippus the radical separation between the knowing process which culminates in the judgment and the state of tension of the soul. This tension is affixed as an epiphenomenon to both knowledge and virtue, but in no sense does it constitute the essential nature of either. In general, M. Bréhier presents the Stoic theory of knowledge, which he analyzes with great subtlety, as an effort to find stable truth in the sensible order. Thus knowledge consists not in general laws but in singular propositions relating to individual things and mutually connected. The whole Stoic theory aims then at harmonizing the necessity of finding in appearance a measure of the real with the necessity of science which requires an immutable reality. But in its manner of conceiving the rôle of representation, Stoicism remains frankly intellectualistic. Nevertheless, the intellectualism common to Stoic thinkers does not to the degree which has been generally supposed identify the rational soul of man with the directive reason of the universe. M. Bréhier would thus be disposed to refuse to Chrysippus the designation of Pantheist and seems rather to find in his thought traces of the idea of creation. He insists on two characteristics of the system. The first is its pedagogic character, which accounts for its tendency to transform logic into dialectics in order to attain the deepest possible subjective conviction; the second is its eclecticism, in which it already anticipates Alexandrianism, and which leads it to combine in a synthesis as broad as possible all the inventions and concepts of Greek philosophic genius.

Too quickly we are forced to pass from ancient to modern philosophy. French works on the thought of the Middle Ages are much too scattered as well as too few in number, and when they have objective accuracy they are frequently lacking in clearness and power of exposition. It would be unjust, however,

to pass over the volume of studies published by M. Picavet, relating respectively to the Hellenistic education of St. Paul, the twelfth century controversy over universals, Roger Bacon and Pierre de Maricourt. M. Picavet shows the influence of Plotinus on medieval thought and hence indirectly on modern thought—perhaps to the point of exaggerating it somewhat. The two volumes by M. Sertillanges on Thomas Aquinas[1] give a serious, well-ordered exposition, but one sometimes a little heavy and abstruse, of the Thomistic doctrine. Wishing to hold his reader, he succeeds rather in imprisoning him. The little book by M. Jacques Zeiller on *The Idea of the State in Thomas Aquinas*,[2] is a very clear objective study of the Thomistic political theory with a sustained criticism of it in the light of history. The further attempt is made to separate in the theory those elements which are still vital and significant from those which are definitely antiquated.

Modern philosophy owed its rise equally to the restoration of classic ideas of morality and to the development of the new science of nature. Among French writers of the sixteenth century who contributed to the revival of the spirit of antiquity while adapting it to the needs and surroundings of the time and modifying it by the infusion of their own personality, Michel de Montaigne occupied the first rank. He has remained the representative *par excellence* and the master in his own country of a temperate discipline and good natured wisdom, accommodating itself indulgently, disinterestedly and without effort, to the frailties of human kind. Though embodying one of the most original and characteristic types of the French mind, he none the less aided foreign writers like Locke in setting free their own originality. For these reasons a hearty welcome should be accorded to the attractive edition of the *Essays* by M. Fortunat Strowski,[3] and it is to be hoped that the work, of which two volumes are

[1] A. D. Sertillanges, *St. Thomas d'Aquin.* Paris, Alcan, 1910.—8°, vol. I, pp. vii, 334. Vol. II, pp. 348.

[2] *L'idée de l'Etat dans St. Thomas d'Aquin.* Paris, Alcan, 1910.—12°, pp. 206.

[3] *Les Essais de Michel de Montaigne.* Published after the Bordeaux edition, by F. Strowski. Bordeaux, Imprimerie nouvelle. Vol. I, 1906.—4°, pp. xxi, 475. Vol. II, 1909.—pp. vii, 668.

still to appear, will be completed as admirably as it has begun. For the remaining portion, M. Strowski has secured the aid of a valuable collaborator in the person of M. Pierre Villey. M. Villey is well known known through his works on the sixteenth century in France and on Montaigne[1] himself, works which show unfailing soundness of judgment as well as vast scholarship.

There is no greater aid to historic research than that afforded by scholarly and dependable editions of important authors. It is therefore cause for gratification that the great edition of the complete works of Descartes by M. Paul Tannery and Charles Adam has now been completed. This edition is really worthy of the great philosopher who not only represents the highest qualities of the French genius, but whose work has also given to the whole course of modern thought its impulse and direction. At the death of M. Tannery, M. Adam resolutely took charge of the work, and has completed the eleven volumes of the works and correspondence of Descartes, with a twelfth volume which treats in detail the life and intellectual development of the great thinker.[2] He has also added a small volume containing some miscellaneous papers subsequently discovered and a general index designed to facilitate the use of this extensive edition.

That, moreover, all has not been said on the subject of Descartes, though commentaries have by no means been wanting, is proved by the appearance of new works elucidating various phases of his thought, giving a different interpretation of its general sense, or explaining its development by pointing out influences hitherto too little noticed. In a study of *Descartes and Analytic Geometry*,[3] M. Milhaud shows that although the publication of the works of Descartes was earlier in date, Fermat had discovered independently and at about the same time what many regard as the essential elements of the method. That this coincidence did not give rise to more disputes over priority was

[1] *Les sources d'idées au XVI^e siècle.* Textes choisies et commentés par P. Villey. *Bibliothèque française.* Paris, Plon, 1912.—12°, pp. 278.

Montaigne. Textes choisés et commentés par P. Villey. Ibid.—12°, pp. 281.

[2] *Vie et Oeuvres de Descartes, Étude historique* par Charles Adam. Paris, L. Cerf. 1910.—4°, pp. 646.

[3] Paris, L. Cerf, 1913.—4°, pp. 107.

due, he further explains, to the fact that the new results of Descartes and his contemporaries followed so naturally from the work of the Greeks. In another article on *Descartes and the Law of Sines*, he defends Descartes very positively against an accusation of plagiarism which has long been current. Concerning the *Cartesian Laws of Motion* of Leibniz and the relation of the work of Newton to that of Descartes, M. Milhaud brings forward new data and bases his conclusions on a minute and illuminating discussion of documents and circumstances.[1]

The preceding studies deal with different sections of Descartes's scientific work. A book treating of his system as a whole has appeared posthumously from the pen of O. Hamelin, though not intended by its author for publication. It consists of a course of lectures prepared with great care even to the least detail, and which seemed to merit collection and publication.[2] The title chosen indicates exactly the author's design. The aspect of Cartesianism which he presents in a remarkably vigorous synthesis—which, however, does not preclude precision of analysis, in fact quite the reverse—is above all the intellectual organization which gives it the character of a system. M. Hamelin does not deny that Cartesian thought is related to preceding speculation in some cases by direct filiation, in others by opposition; but he is concerned to bring out with the greatest emphasis those elements in it which are irreducible to antecedents and truly original. Only his great devotion to Aristotelianism sometimes renders him unfaithful, and then perhaps unfortunately so, to this general view. Thus he holds that the *Cogito* is for Descartes essentially a matter of reason, and he appears to misunderstand the relation of certain peculiarities of Cartesian deduction to the Aristotelian syllogism. On the other hand, he excels in showing the new and modern element, the idealism either explicit or involved in the system; and the penetration and insight with which he discovers, under formulas which sometimes seem to limit it quite too narrowly, the expansive power of the

[1] *Nouvelles études sur l'histoire de la pensée scientifique.* By G. Milhaud. Paris, Alcan, 1911.—pp. 155–235.

[2] O. Hamelin. *Le système de Descartes.* Published by L. Robin, with a preface by E. Durkheim. Paris, Alcan, 1911.—8°, pp. xi, 392.

Cartesian idealism, has occasioned the most profound and suggestive pages of the book. This idealism, however, is not pure and simple intellectualism, for it involves in a manner which the author considers integral and essential the position of the thinking subject as a free personality. It is possible that the tendency which Hamelin manifests of assimilating Cartesianism to his own views is traceable to a failure to recognize that Descartes's conception of the priority of knowledge over things did not justify even in principle the resolution of things into ideas. The last point the present writer has attempted to bring out in an article on "Idealism and Realism in the Philosophy of Descartes."[1] But the fact remains that the restatement, though incomplete, which M. Hamelin has attempted of the Cartesian system brings home to us one of the most intimate relations between the system and the development of modern thought.

After all, one need not be obsessed by the great and decisive originality of the philosophy of Descartes, to the point of forgetting that it had its antecedents and that it originated and developed in an essentially theological *milieu*. M. Gilson protests with some spirit against this fashion of isolating the system from the conditions of its existence. He has given us two works, which although of quite different character are animated by the same intention of showing by comparisons and definite data just what influence was exerted on Descartes by scholasticism and by the theology of his day. One of these works is a *Scholastico-Cartesian Index*;[2] it is a collection, aimed to be as complete as possible, of the phrases and forms of expression in the text of Descartes which were derived from scholastic philosophy. The author does not contend that a dependence of Descartes on scholasticism is always thus established; he leaves the question open as to whether in any particular case identity of expression may cover a difference in meaning. What he has aimed to furnish is first of all an implement for work, and taken at its face value his book is a very important aid to further study of the scholastic sources of Cartesian thought; it is, moreover, in

[1] *L'Année philosophique.* Twenty-second year (1911). Paris, Alcan, 1912.—pp. 39–53.

[2] *Index Scolastico-Cartésien.* By E. Gilson. Paris, Alcan, 1913.—pp. 354.

spite of certain inevitable shortcomings, a thoroughly dependable one. The other work by M. Gilson[1] referred to deals with the specific problem of freedom, whether of God or of man, and shows what in this connection Descartes owed to theology. The author argues with considerable power, and, as it seems, with complete validity, that the primary object of the Cartesian theory of divine liberty as opposed to Thomism, was to justify the condemnation of investigation into final causes and the method of the new physics. Descartes is regarded as having taken this doctrine, not as has been supposed from Duns Scotus, but from contemporary theologians nourished on Neo-Platonic and Augustinian thought, such as Cardinal Bérulle and especially Father Gibienf, with whom he was closely associated. The Cartesian ideas on divine liberty were in this view a mere adaptation of the theology of the Oratory to the geometrical and mechanistic physics, the safeguarding of which was the principal preoccupation of Descartes. As to his doctrine of human liberty, Descartes borrowed its constituent elements from St. Thomas and merely transposed them. After criticizing keenly in his *Meditations* the liberty of indifference, he seems to have admitted it in his later works, under the influence of the controversies aroused by the rising Jansenism. This latter part of M. Gilson's work seems the most vulnerable, though it contains many ingenious observations and curious comparisons. In any case, however, the author must be admitted to possess exact and extensive knowledge, coupled with penetration and agility of mind. He has the equipment and natural endowment essential for tracing the numerous infiltrations of scholasticism into modern philosophy.

It is indubitable that in certain aspects of his thought Descartes remained more under the influence of the older philosophy and of the theology of his time than he himself realized. It becomes a natural question, what was his conception of faith and his attitude with regard to religion. This question has been examined by M. Laberthonnière with close attention to the utterances of Descartes on the subject and with great psychological

[1] *La liberté chez Descartes et la Théologie.* By E. Gilson. Paris, Alcan, 1913.—8°, pp. 462.

subtlety, in three articles.[1] He proves conclusively that Descartes was a sincere believer and that he never thought of making a religion of his philosophy or of interpreting religion in a purely rationalistic spirit. He shows at the same time, however, to what extent Descartes conceived of faith as a passive acceptance of truths which force themselves upon us, and to what extent he utilized the separation of faith and philosophy in the interest of his scientific theories; also, finally, that he never really entered into the vital spirit of religion.

This philosophy outside of faith was precisely what was so shocking to Pascal, the determined adversary in this respect of Cartesianism. Yet he retained nevertheless the Cartesian spirit, at least in his disposition to refer to the reason of the people questions which had hitherto been debated mainly by theologians. The new edition of Pascal, so carefully carried out by M. Brunschvieg with the collaboration of MM. Pierre Boutroux and Félix Gazier, makes it possible to follow more accurately than before the controversies which led to the *Provincial Letters* or which followed their publication. Its explanatory notes also enable us to follow readily the various excursions of Pascal's scientific activity.[2] The seventeenth century in our country has too long been studied almost exclusively as a succession of literary masterpieces; students are just beginning to realize the interest that would attach to a reconstruction of the scientific and religious movement.

On the contrary, interest in the eighteenth century here has always centered especially in the theories and the ideas which it contributed, and which were to modify not only men's habits of thought but the conduct of public affairs as well. From this fact, too, has arisen the difficulty which is found in considering it dispassionately and judging it with perfect impartiality, as was still to be seen in the discussions connected with the celebration of the second centennial of the birth of J. J. Rousseau. Concerning the trend and value of the influence exercised by

[1] "La théorie de la foi chez Descartes"—"La Religion chez Descartes." *Annales de Philosophie Chretienne*, July, August and September, 1911.—pp. 382–403, 493–523, 617–640.

[2] Pascal, *Oeuvres*, Vols. IV–XI. Paris, Hachette.

Rousseau, the most cultured people in the country were divided not merely on theoretical grounds but also, as was plainly felt, by motives which involved even questions of conscience itself. At this time appeared many studies for and against—and some simply concerning—Rousseau. The studies of the most direct interest for the history of philosophy are those which appeared in the *Revue de Métaphysique et de Morale*,[1] and some of which were reprinted in a volume of the *Bibliothèque générale des sciences sociales*.[2] They were written by MM. Boutroux, Harald Höffding, Stammler, Bosanquet, Claparède, Dwelshauvers, Jaurès, Bouglé, Lévy-Bruhl, Bourguin, Parodi, Benrubi, Delbos, and others, and related to the religious, philosophical, social and political ideas of Rousseau, and their effect on human life.

We may pass directly from Rousseau to Kant, who was so largely inspired by him, and to the German philosophy which in various aspects shows such visible traces of his influence. In the successive volumes of *L'année philosophique* MM. Pillon and his collaborators revert more than once to questions raised by Kantianism. Particularly penetrating studies are those by M. Pillon on the Kantian doctrine of antimonies and its relation to the conceptions of Schopenhauer and of Renouvier.[3] But the whole development of German thought from Kant on is studied in this country with increasing interest and care.

We must content ourselves with noticing in connection with Kant the book by M. Jean Blum on Hamann.[4] The book is heavy and slow reading but solid and instructive, and not only depicts the somewhat mysterious personality of the "Magician of the North," but also gives detailed information concerning the relations of Hamann and Kant, also Herder and the controversy over the origin of language, as well as Jacobi and the controversy over Spinozism. On Schelling, however, there is a book which must detain us a little. The author, M. Bréhier,[5] has ably planned

[1] May, 1912.

[2] *Jean-Jacques Rousseau.—Leçons faites à l'École des Hautes Études sociales.* Paris, Alcan, 1912.—8°, pp. 303.

[3] *L'année philosophique.* From the twentieth to the twenty-third year.

[4] *La Vie et l'oeuvre de J. G. Hamann.* By J. Blum. Paris, 1912.—12°, pp. 704.

[5] *Schelling.* By Émile Bréhier. Paris, Alcan, 1912.—8°, pp. 314.

his work; he has set out to portray the internal development of Schelling's thought by following the chronological order of his works, and has carried out this difficult program with authoritative scholarship and remarkable feeling for the sense of the text, refusing to be bound by a literal fidelity which would certainly more than once have confused the uninitiated reader. The exposition is accompanied by a running commentary whose single disadvantage is that it serves to obscure the enthusiasm and splendid eloquence which lend such brilliancy and charm to the abstract speculations of the German metaphysician, and often help to secure acceptance for his audacious theories. But the important thing, after all, is to get at the significance of Schelling's speculations and the causes which have rendered his work enduring. For this task of understanding and interpreting Schelling, M. Bréhier gives very valuable assistance. In particular his chapters on aesthetics and on religious problems illuminate with great power and critical insight important phases of Schelling's philosophy. His outline of the essential facts of the development of the system seems correct, though he perhaps inclines to underestimate the influence of Fichte on the early works, and is possibly not perfectly consistent in his delimitation of the successive periods or stages of this ever-changing philosophy. His general characterization of Schelling might have gained somewhat if his thought had been less closely assimilated to certain present-day movements; but it is interesting and it indicates clearly the distinction between the *momentary* rationalism of Schelling and the rationalism of Hegel, also between his *momentary* voluntarism and the voluntarism of Schopenhauer.

We are still waiting in this country for a work which will give an explanation as well as an exposition of Hegelianism. The book of M. P. Roques[1] gives the exposition with conscientious care; but although the author shows no lack of fervid Hegelian conviction, he contents himself too readily with following in an objective way the external circumstances of Hegel's life and the order of appearance of his works. Such as it is, however, the book will render useful aid in giving what we may call the material

[1] P. Roques. *Hegel, sa vie et ses oeuvres.* Paris, Alcan, 1912.—8°, pp. 358.

basis of facts for the working out of problems of explanation and interpretation.

In contrast with Hegel, Schopenhauer has long been studied in France and has become almost familiar. Yet in passing into our literature, and we might almost say into our conversation, it must be granted that he has been simplified to excess. The monograph devoted to him by M. Ruyssen[1] is clear and accurate and in addition it reconstructs the author's work in its full complexity. M. Ruyssen has made intelligent use of all recent literature which could aid in clarifying either the development or the internal significance of Schopenhauer's philosophy. By way of criticism it may be suggested that he perhaps disposes a little too briefly of the questions of the sources and of the internal relations of the different elements of the system; perhaps also his anxiety to show us his author as a living force has led him to exaggerate somewhat the affinities of his irrationalistic voluntarism with the pragmatism and voluntarism of the present time. Nor must it be forgotten that in Schopenhauer the dualism of idea and will leaves a definite rôle to be played by the former. M. Ruyssen's book is to be commended in general for the objective and well thought out character of its contents. The work by M. Ernest Seillière[2] on the contrary, falls far short of a complete and systematic exposition. It has the merit of insisting, sometimes very happily, on the mystical and romantic elements in Schopenhauer's thought.

M. Albert Lévy is the author of a book on the life and work of Frederick Strauss, which may add nothing essential to the German works by Hausrath and Ziegler on the same subject, but it at least presents in a clear and attractive form and on the basis of a new direct study of the texts the work of one of the most characteristic writers of that nineteenth century Germany which has passed from romanticism to militarism, from theology to natural science, from Goethe and Humboldt to Bismarck and Moltke, and from Kant to Nietsche. The first *Life of Jesus*, in which Strauss applied a mythical interpretation to all the

[1] *Schopenhauer.* By Th. Ruyssen. Paris, Alcan, 1911.—8°, pp. 358.

[2] *Schopenhauer.* By Ernest Seillière. Paris, Blount, 1910.—8°, pp. 240.

sacred writings, indicated in a decisive way the direction of his whole thought. Yet it is surely an exaggeration to see, as does M. Lévy, between the second *Life* and the first only a difference in exposition. And we must suggest also that it would have been well to treat more fully Strauss's change from Hegelian to Darwinian evolution. Further, he hardly enables us to follow the genesis of the book on *The Old and the New Faith*. If, however, his aim was chiefly to give an introduction to the work of Strauss, he must be said to have accomplished his task with ability and success.

A group of studies relating to various more or less recent tendencies in German philosophy, and to the prominent representatives of the different movements have been united under the not very accurate title of *German Philosophy in the Nineteenth Century*.[1] M. Groethuysen treats of Dilthey and his school; M. Delbos of Husserl, his criticism of psychologism and his conception of a pure logic; M. Benrubi of the religious philosophy of Eucken; M. Basch, of contemporary German aesthetics; M. Dwelshauvers discusses Wundt and experimental psychology, while M. H. Norero writes on the social psychology of Wundt, M. Bouglé on Simmel, and M. Andler on the philosophy of the historical sciences. M. Andler also writes the masterly preface, which sketches the plan of further studies to continue and complete the present collection.

Simmel, besides the study in the collection just referred to, has also received more thorough treatment by M. Mamelet.[2] This writer has followed with much skill as well as sympathy the ingenious processes by which Simmel has utilized in the explanation of history, of the social and economic life, and of aesthetics and religion, a conception of the relativity of knowledge which harmonizes well with his anticritical positivism and modifies Kantian formalism with an admixture of experimental psychology.

It is obviously cause for gratification that a thought so rich as the German should become better known; the crossing of diverse

[1] *La philosophie allemande au XIX^e siècle*. Paris, Alcan, 1912.—8°, pp. 254.

[2] *Le relativisme philosophique chez Georg Simmel*. By A. Mamelet. Paris, Alcan, 1913.—8°, pp. 214.

intellectual tendencies is likely also to prepare the way for original ideas. But there are among us characteristically French thinkers who have been hitherto too little known abroad, and one in particular who is deserving of wider recognition; this is Maine de Biran. Formed originally in the school of Condillac and the idealogues, he freed himself from his earlier masters; and, opposing both empiricism and abstract rationalism, he founded a philosophy of consciousness based on the dualism of the self which knows itself through effort, and of the unconscious or impersonal affections. To the best physiological explanations of his day he added new psychological conceptions of singular profundity. After resting some time in this philosophy of the self, he tended, under the influence of religious motives, toward the construction of a philosophy of the absolute based on the feeling or intuition of the divine spirit. In a clear and well arranged book on *The Anthropology of Maine de Biran*, M. Tisserand[1] has studied his system with minute care from the point of view of its latest form, and has analyzed with great power one of the most significant specimens of religious experience. In the same volume M. Tisserand has restored and completed an unfinished work by Biran which had been abridged or mutilated in the earlier edition by Cousin. He is further preparing to edit, under the auspices of the French Institute, various other hitherto unpublished writings, which may shed additional light on an interesting and important figure in the world of thought and of letters.

Another French philosopher of the nineteenth century who has been influenced but little by other systems is Cournot. His thought, at once personal, keenly critical and temperate, has occupied itself with the analysis of the ideas of order, of chance and of probability; with the definition of reason, with the criticism of knowledge by the examination of the sciences, their object, their principles, their postulates and their methods; and finally with the question as to whether a supreme synthesis of their results is a possibility. A probabilist by natural bent of mind as well as in doctrine, he presents connected suggestions rather than offers a finished system. His two principal works, the

[1] *L'anthropologie de Maine de Biran.* By P. Tisserand. Paris, Alcan, 1909.—8°, pp. 336.

Treatise on the Relations of the Fundamental Ideas in the Sciences and in History[1] and his *Essay on the Foundations of Our Knowledge and the Characteristics of Philosophic Criticism*,[2] which have for some time been difficult to procure, have fortunately just been republished. His hitherto unpublished *Recollections*[3] have also just appeared. These are really recollections, not confessions; Cournot relates things he has seen and paints with a delicate touch persons with whom he has associated. Some passages here and there incidentally throw light on the development of his thought. The editor of the *Recollections*, M. Bottinelli, has published at the same time a book on *Cournot as a Metaphysician of Knowledge*.[4] He sets out to reconstruct the metaphysical system which he regards as finally constituting for Cournot the principle or the guarantee of knowledge. This he considers to be a vitalistic metaphysics, admitting contingency and supported by a reason akin to intuition. Thus room would be made for the possibility of a transitional order which, without contradicting reason any more than reason contradicts logic, might appropriately be called the order of religious truth. It must be said that this reconstruction of Cournot's work is more ingenious than accurate; it assimilates his system much too closely to those of certain contemporary intuition philosophers. Much sounder seems to me to be the study by M. Darbon on the concept of chance in the philosophy of Cournot.[5] This writer does not restrict himself to an exposition of the method by which Cournot seeks to reconcile determinism with the independence of causal series; he goes on to show how, not without some wavering and uncertainty, the theory of chance is taken up and worked over so as to play the leading rôle which is assigned to it in Cournot's

[1] *Traité de l'enchainement des idées fondamentales dans les sciences et dans l'histoire.* New Edition. Paris, Hachette, 1911.—8°, pp. xviii, 712.

[2] *Essai sur les fondements de nos connaissances et sur les caractères de la critique philosophique.* New Edition. Paris, Hachette, 1912.—8°, pp. 614.

[3] *Souvenirs d'A. Cournot.* With an introduction by E. P. Bottinelli. Paris, Hachette, 1913.—8°, pp. 257.

[4] *A. Cournot, Métaphysicien de la connaissance.* Paris, Hachette, 1913.—8°, pp. 266.

[5] *Le concept du hasard dans la philosophie de Cournot.* Bordeaux, 1910.—8°, pp. 60.

system. In another field, M. Segond has ably summed up the significance of Cournot's psychology and in particular the place occupied in it at various stages by the concept of life.[1]

There is some analogy between the probabilism of Cournot and the criticism of Renouvier. They were both overshadowed and left isolated by the philosophy then all-powerful in France, that of Victor Cousin. But Renouvier struggled more energetically against this isolation, and in addition his thought, being more specifically philosophic and more closely related to previous speculation, was able at an earlier date, in spite of unfavorable conditions, to exercise a considerable influence. His idea was to restore the essential features of Kantianism, while purifying it of certain prejudices such as the thing-in-itself, and the determinism of the natural order; at the same time he sought to restore the phenomenalism of Hume in order more radically to illuminate the concept of substance, and also to assimilate his doctrine somewhat to a freely interpreted Leibnitzian monadology and to the Cartesian theory of the will as a principle of judgment. Renouvier's work shows a rare power of analysis combined with remarkable vigor in dialectic construction. These laudable qualities are especially conspicuous in the *Essays in General Criticism*[2] which have just been published and which certainly constitute one of the most notable French philosophical works of the nineteenth century.

It would be desirable if the great diversity of intellectual and spiritual tendencies which have occupied this nineteenth century could be studied in greater detail. This study should not be limited to professional philosophers, as a great many writers have contributed to the modification and propagation of philosophic ideas. Along with the development of theories in the strict sense, and with the relatively unchanging influence of organized beliefs, there has existed in France in the nineteenth century a

[1] *Cournot et la psychologie vitaliste.* By J. Segond. Paris, Alcan, 1911.—16°, pp. 166.

[2] Charles Renouvier. *Traité de Logique générale et de logique formelle.*—2 vols. 8°.—pp. xvii, 397, 398.

Traité de Psychologie rationnelle. 1912,—2 vols. 8°.—pp. 393, 386.

Les principes de la nature. 1912.—1 vol. 8°.—pp. lxv, 444.

well-defined movement of religious romanticism. The originator of this romanticism was La Mennais. To follow this man in his family, in his connections with the eighteenth century, in his reaction perhaps more apparent than real against Rousseau, in his reflections and his dreams, in his assimilation of the ideas of Bossuet and Bonald, and especially in the ramifications of his spiritual life, is the task to which M. Charles Maréchal has devoted himself. His two volumes are ably written and present a remarkable abundance of new information; they form a valuable contribution to the life history of a passionate, restless soul, dominated by a vivid imagination, violently enamoured with authority and yet incapable of submission to it.[1]

Numerous other works have recently been published besides the editions and re-editions which have been mentioned, but they relate to subjects too diverse for detailed notice. Yet all strive, though in different degrees, to combine with a careful study of the texts or documents concerned a constructive, synthetic and even critical interpretation. They do not permit the philosophic import of the ideas reconstructed to be lost in history pure and simple. This is the ideal which has always been proposed and in an eminent degree realized by the man who ranks in France as the master of studies in the history of philosophy. I refer to Émile Boutroux, and it gives me an especial pleasure to be able to terminate this article with a brief mention of Boutroux's little book on William James.[2] No man was better qualified to sketch for French readers the intellectual and moral features of the illustrious American philosopher or to portray for us his rich and attractive personality. Boutroux has devoted his first pages to the man himself and his life. Then with his usual clearness and delicacy he develops the broad outlines of James's psychology, his religious views and his pedagogy. These pages, enlivened by warm sympathy which yet does not preclude freedom of judgment, are a fine tribute of French thought to the memory of an American thinker.

VICTOR DELBOS.

[1] Charles Maréchal. *La famille de La Mennais.* Paris, Perrin, 1913.—8°, pp. 345.

La jeunesse de La Mennais. Paris, 1913.—8°, pp. viii, 719.

[2] *William James.* By Émile Boutroux. Paris, Colin, 1912.—16°, pp. 142.

GERMAN PHILOSOPHY IN 1913.[1]

AS in previous annual summaries, there can be no question here of uniting under a single rigid formula the manifold and somewhat contradictory philosophic movements of the year that has passed. It may be possible, however, to point out some definite centers about which the intellectual process has shown a tendency to concentrate and so attain at least a temporary equilibrium.

The movement back to Kant and to the transcendental formulation of the problems has given its characteristic direction to the trend of recent German philosophy. The positivistic and psychologistic tendencies, and equally the diversified attempts at constructive metaphysics, have been so completely relegated to the background by the new *Logismus* that at present practically all discussions are carried on in the field marked out by the latter. A notable revival of metaphysical tendencies, it is true, is characteristic of the immediate present; but in this we see on the one hand effects of foreign influences such as that of Bergson, and on the other it must be noted that the significant discussions have by no means departed from the common ground of the critical philosophy. Moreover, while we must admit that the movement in Germany which seeks to erect the vitalistic concept into a universal principle of explanation has largely followed the leadership of Henri Bergson, it must be borne in mind on the other hand that the antilogical implications of the intuitionistic doctrine are recognized as repugnant to German thought. If the life-concept is to effect the synthesis of value and reality, it cannot be alogical or antilogical but the rational principle must rather be reconciled in it with that of intuition.

This is the more to be emphasized since recent investigations have given the logical element the predominance in the whole field of being. Formerly, attention was principally directed to the outer world, whose transcendental interpretation seemed to

[1] Translated by F. H. Knight.

be the principal task of philosophy. This was clearly indicated in Kant himself, even though his doctrine of the categories laid down the conditions of all possible experience, and hence applied equally to subject and object. In the more detailed development of his thought, however, and in particular in the formulation of the juridical basis of the categories, his center of interest shifted notably in the direction of objective experience. This is readily to be explained by his pre-eminent interest in the problems of natural science, which for him so completely occupied the foreground of philosophy that they completely dominated his formulation and solution of problems. The critical philosophy is in short an objective view of the world. In this respect Kant inherited and at the same time completed the rationalistic mode of thought which since the Renaissance had expended most of its energy on the epistemological and metaphysical structure of the object. We see why psychology played a relatively minor rôle in the critical system. For Kant psychology, into which quantitative methods and mathematics had not yet been introduced, was not to be called a science at all in the strict sense of the word. Yet he advanced this branch of study enormously, by finding in it the conditions for the realization of the categories. In more recent philosophy also, the 'back to Kant' movement has meant a limitation of the field of psychology. Transcendentalism had first to be established as a method, by overcoming the 'psychologism' of the strong positivistic schools which reduced logical values in the field of natural law to a plane of relativism and deprived them of their character of necessity.

Psychic structure as well as outer nature was treated as a complex of facts whose relations could only be determined by experience and not as possessing timeless and unconditioned validity. The proof, to be sure, that here lurked a crude *petitio principii* was not hard to give. As the point of departure was the assumption of fixed laws governing the structure of psychic life, the validity of the highest axioms of logic was also assumed, which was the point to be proved by these laws of psychic structure. It is not to be denied that psychology itself suffered sympathetically through this overthrow of 'psychologism'; but

thinkers could not permanently continue in the error that the failure of the unjustifiable attempt to base logic on psychology was any argument against the value of that discipline as an independent science parallel to the other sciences. Furthermore, it was not to be disputed that the perception of the absolute independence of logical values is a psychic fact and must constitute a sphere of the inner experience of reality. Thus it is not strange that Husserl, who published in the first volume of his *Logische Untersuchungen* the most complete and comprehensive polemic against 'psychologism' which has yet appeared, should devote the second volume of the same work exclusively to phenomenological analyses of the relations of thought to the logical values. The work of representatives of the 'Gegenstandstheorie,' such as Meinong, tends in the same direction; this author's investigation of objectivity in the intellectual and emotional behavior of man fulfills the strictest requirements of descriptive and analytical psychology. Leonard Nelson also, the founder of the Neo-Friesian School, regards the anthropological justification of the categories as the most important if not the only problem in connection with a theory of pure knowledge. The point of his criticism is turned against any attempt at a logical deduction of the forms of the categories, such as has been undertaken especially by the Marburg School. Efforts in this field have recently been directed also toward the placing of psychology on a new basis and starting it out frankly in a new direction; the aim is to derive from the spiritual values, intellectual, ethical and aesthetic, the psychic functions which have objectified themselves in the products of mind in these fields. Thus psychology stands at the parting of the ways; the situation can perhaps not be better characterized than by saying that in place of the old slogan, 'for logic and against psychologism,' the new one must be worded, 'for psychology against psychologism.'

It will be clear from the foregoing that at the present time interest centers in the establishment of psychology on a philosophical foundation rather than in the determination and arrangement of specific psychological facts. Even this general point of view is to be heralded as an evidence of progress. Where

psychology has been made an empirical science, isolated from the great world problem, and has occupied itself with the collection and inductive treatment of factual data, it has perhaps brought valuable material to light, but has never been able to construct a living coherent system. Its claim to independence from philosophical assumptions, moreover, was at best a somewhat shadowy illusion. It was in fact merely a particular sort of philosophizing, namely, positivistic empiricism, upon which the empirical 'psychology without a soul' so popular in the past decade was dependent. From that philosophy it borrowed its characteristic method, the naïve conviction of the immediately-given nature of experience and of the possibility of getting hold of it through merely reaching out after it, or more correctly, through passive reception of it. Moreover, it was deemed necessary to concern one's self only with the elementary constituents and their appropriate connections, which shows again the influence of the naturalistic conceptions that built up all physical reality out of the ultimate elements—atoms and motion. This parallel manifests itself especially in the associationistic character of the empirical psychology. The thinking spirit, conscious of itself, is merely the final result of the *associations*, not the motive power of the whole conscious process. We shall see that right here in the relation between feeling and thought, a decisive change sets in with the recent critical psychology. This is accounted for, again, by its place in the general philosophic system to which it belongs. This general view, that is to say, has made it clear that psychical reality belongs to quite a different dimensional form from temporal, that, namely, of *logical meaning reaction*, into which every incident of experience, even the most simple and rudimentary, is taken up. The associationistic psychology was disposed to limit this function to the most highly organized psychic manifestations, articulate speech and thought, and to link it with representation as a sort of an attachment to prevent its being altogether isolated. A consequence of the overthrow of empiricism by transcendentalism has been that in the analysis of the inner processes these have been recognized as permeated through and through with logical values and

meanings. In the operation a new ground of distinction between the physical and the psychical has become manifest. Not merely the linear character of consciousness, the temporal succession of its content, distinguishes it from the space-time relations and arrangement by position of the outer world, but also the remarkable direction of that content toward an ideal system in no way to be determined in space and time. We think of the physical as constituted by what in form and content it *is;* the psychical, on the other hand, as well by what it *means*. That is, the psychical always implies and includes something besides itself, of which it is in the broadest sense symbolic or representative and toward which it is "intentionally" (Husserl) directed. The nature of perception, memory, and the formation of images (Vorstellen), as well as conceptual thought, prove this. It may be objected that this distinction is eliminated by the fundamental critical view of all being, inner as well as outer, as subject to logical law. But this amenability to logical law is not the present question (which itself relates to a strict logical relation); the point now to be emphasized is that in the psychical, a connection with logical values must be realized in an active experience.

It is the merit of Hönigswald to have laid the greatest emphasis on this point in his lecture, *Prinzipien der Denkpsychologie*, (Berlin, Reuther & Reichard, pp. 45). The central idea of the lecture is the emphasis on the intellectual nature of the mental life and the essential inseparability of thought from all other psychic functions, since they all contain or presuppose it. Only with thought as a point of departure therefore, as Hönigswald clearly shows, can a valid and adequate psychology be built up. "Thus the factor of *meaning* (Sinn) cuts deeper and deeper into the enormous complexity of the psychic life, as the dominating reaction; and the circumstance which seems to me to demand the most serious consideration, even from a purely psychological point of view, is the tendency of everything psychical in the direction of meaning, or what I should like to call simply the 'meaning' of the psychical. Perhaps we may express the thought in another way by saying that only the *relatively* meaningless can have a place in the psychic structure; and the striving after

a meaningful connection for elements in an unmeaning juxtaposition probably ceases only with the end of the psychic life itself." In the further development of his thesis Hönigswald provisionally distinguishes, in common with the group of thinkers basing their work on Kant, between epistemology, phenomenology, and the psychology of experience. Epistemology deals with the kingdom of truth and its determining conditions; phenomenology analyzes or dissects the experience of meaning, and psychology investigates the mental conditions which control that experience. Phenomenology omits from consideration the criteria of evaluation of its objects, the distinction between mere meaning and truth. These are furnished only by epistemology; the former science can deal with them merely as experienced, not as judged or appreciated (normiert).

We find kindred lines of thought developed by Driesch in his book on *Logik als Aufgabe* (Tübingen, Mohr, pp. vi, 99). He also attempts to discover the connection between logic and phenomenology. The latter corresponds to what Driesch calls the science of self-consciousness, while the basis of logic he designates as the science of order. The most important thesis of the work is that the psychic phenomenon of reflection is constructed and not passively experienced, *i. e.*, that it belongs to the realm of order or logic, or that the content of such a mode of consciousness consists in having thoughts. The same is supposed to apply to willing and to any sort of change or becoming. The last is regarded as 'meant objectivity,' while immediate experience would comprehend only the existent which is out of relation to time. I do not believe this thesis will be accepted in its radical form. Even if we do not go so far as Bergson and find in the experience of time the metaphysical intuition of the absolute, we at least cannot deny this experience its character of immediacy. It is quite incomprehensible how a temporal order can be made out of timeless elements by any conceptual process. On the contrary, the assumption of the timelessness of experiences is itself the result of conceptual falsification. It seems to me that with respect to the problem of the past, neither the symbol-theory nor that of its immediately-given character is adequate,

and that a rigid separation of the two is here carried *ad absurdum*. That we have an immediate experience of the past is simply a contradiction in terms, while it is equally impossible that an order like the temporal could originate from pure existence values through any constructive action. The construction must have some basis of procedure if its result is to possess value as knowledge and not be merely arbitrary assumption. If we ask how a process of becoming can be built up out of existences, Driesch answers, on the basis of memory-symbols. But it will not do to isolate experience and symbol to the degree that they become mutually exclusive opposites. This is possible with artificial, merely conventional symbols like those of speech and writing, but not with those which are forced upon us by the nature of things and to which an objective or theoretical value is to attach. These would be unmeaning either as represented or representing, if they had no substantial connection with experience. Briefly stated, if the past and the consciousness of change rooted in it were merely a static symbol, it would be inexplicable how any transition from it to the dynamics of psychic life could be effected. The problem of time is chiefly interesting because of the very fact that in it, as in the more ultimate problem of the Ego, symbolism and memory recognition (Erlebtheit), or symbol and reality, come so close together that an essential separation is felt to be no longer possible and we rather come in contact with an ultimate reconciling principle of thought and being. Without involving ourselves in a lengthy discussion of this question, we may treat as demonstrated the fact that the distinction, going back to Kant, between empirical and pure time, that given in experience and that logically constructed, remains unshakable. Less assailable seems Driesch's contention that there is in the psychic process only the having of thoughts and no reflection. He may be correct in his claim, based on the results of many experimenters, that in the effort to master a logical situation, the thinkable elements of the problem are predominant rather than the thought-processes themselves. Otherwise expressed, thoughts and not thought, are present to consciousness, and further objective experiences may well be at the basis of these thoughts,

without a fixed determinable relation subsisting between them. It is noteworthy that Driesch himself arrives at the result that no experience is free from the thought element, that there is no such thing as pure feeling, perception or representation.

The book of Fritz Münch on *Erlebnis und Geltung* (Berlin, Reuter & Reichard, pp. 188) which has appeared as a supplementary volume in the *Kantstudien*, is based strictly on Kant and Neo-Kantianism. It is a fertile and thorough investigation, along the general line of thought whose main points have been brought out by Rickert, Lask, Christiansen, and the representatives of the Marburg School. The work affords another example of the astonishing degree of differentiation which the logical field has attained in recent German philosophy. The concepts of validity, value, meaning, norm, truth, correctness, and certainty, of the idea and of the category, which were originally almost inseparably commingled in opposition to the intuitive content of experience, are here sharply distinguished and the boundaries which separate them marked out with great subtlety. The transcendental standpoint is rigidly maintained not merely against the empirical but against the metaphysical view as well. All being is founded on import (Gelten); that is the farthest point to which the analysis of thought can be carried. The critical formulation of the problem goes back, not to the old opposition of subject and object, but to that of form and content. Pure, unformed experience is a limiting concept; this does not mean that it is alogical, unmeaning, but merely that it is to be logically derived and defined. On this point we find all the thinkers so far named in agreement. It goes without saying that Münch is led by this conviction to an unconditional repudiation of intuitionism and of all mere experience philosophy. And it is undoubtedly quite true that a pure, unmeaning, non-conceptual experience is an impossibility. The appeal to such an experience which has been made by Bergson and his school, means not merely the end of all philosophy but a purely imaginary furthering of its aims. From the determination of the form of all experience by values, meanings and imports, it by no means follows, however, that any specific relation subsists between the two. In particular,

it does not militate against the original character of metaphysical being. That it is only expressible in propositions implying import does not mean that its import-content exhausts it without a residue. It does not devolve upon us here to enter the lists in favor of a positive metaphysic, but it is fitting that its essential possibility be upheld and the fallacies of any transcendental argument against it disclosed. 'Logism' raises against any metaphysic the reproach of dogmatism, for at the basis of any system, it is alleged, must lie an unscrutinized 'being,' from which in some inexplicable way, the knowing process is derived, while conversely, the being must first be somehow logically constituted. Thus, for example, it would be an illicit procedure to start out from the distinction between physical and psychical and investigate the relation between the two, or to explain the nature of knowledge from this relation. Those objects which are designated as physical and psychical must first be conceptually justified. But we may immediately grant all this without therefore drawing the conclusions of radical 'logism.' For it is itself a dogmatic prejudice that metaphysics unconditionally derives knowledge from a naïvely hypostatized 'being' and in the form of a subjective copy of the latter. The latest polemic directed against logical idealism (that of Külpe) has shown that the metaphysical concept-building can be critically established as a function of realization. Thus it infers determinate necessities of existence from necessities of thought, proceeding thus from thoughts to being and not in the reverse direction. It proposes to explain, not the realistically and ontologically insoluble problem of thought and consciousness, but that of 'being.' But another problem of metaphysics must be mentioned, which 'logism' does not at first sight appear to meet. This is furnished by the intuitive if not alogical and irrational cognition of 'being' in the act of experience itself. The priority and autonomy of the logical as the basis of knowledge is again not invalidated by the fact that it assures us of something existent. It is at best but a one-sided and unjustifiable view which looks at metaphysics in the light of the mirror-theory definitely overthrown by Descartes himself. The analysis and orientation of

the problem of knowledge which Münch has carried out, and which is so excellent in many respects, must not be given up even if his anti-metaphysical attitude has to be rejected. The point in dispute relates not to the structure of the logical, but to the question whether the logical is able to take 'being' up into itself. Münch's treatment is the less a refutation of the metaphysical in that it also assumes the given character of the content and the determination of the logical categories by the nature of that content, and hence cannot endorse the radical 'logism' based on Hegel.

Among the most important philosophical events of the past year must be named the appearance of the *Jahrbuch für Philosophie und phänomenologische Forschung* by Husserl, in collaboration with Geiger, Pfänder, Scheler and Reinach. (Verlag Niemeyer, Halle a/S pp. 847.) The program of this phenomenology had been previously sketched by Husserl in the second volume of his *Logische Untersuchungen*, as well as in his paper on *Philosophie als strenge Wissenschaft*. The treatment relates, not to the development of a special discipline, but to the laying of a broad foundation to serve as a basis for both philosophy and the special sciences. Husserl draws a sharp distinction between phenomenology and psychology. Psychology is an empirical science, a science of facts and realities; the phenomena of which it treats in common with the subjects to which they appertain belong to the space-time world. Phenomenology, on the contrary, must be built up, not as a science of facts but of essences, as an *eidetische* science. For the general distinction of the two, it suffices that the essence-sciences are independent of fact-sciences but not conversely: "for it is evident in case of the former that an empirical science, wherever it completes mediate bases of judgments, must be governed by the formal principles laid down by formal logic. In any case, it must, like every science directed toward objects, be bound by the laws pertaining to objectivity in general. To this it must be added that every fact includes an essential material content, and every formal truth belonging to the pure essence so included must furnish a law binding upon every given, and indeed upon every possible,

factual detail." For pure phenomenology, Husserl demands that the science hold aloof from the natural or realistic standpoint, and deal strictly with the pure or transcendental consciousness which must be the exclusive object of contemplation. This view of consciousness abstracts it entirely from every question as to the existence of the thing known, and occupies itself, as we may otherwise express it, not with the 'whether' but with the 'how' of being. This is the first distinctive mark. The second is found in the fact that this exclusive occupation with the essential connections of experience does not mean abstraction, but merely the adoption of an immediate, intuitive, phenomenological point of view. The concept of intuition is used by Husserl in a sense much wider than the current one, extending far beyond the sphere of perception and including all given aspects of relation of which we are immediately aware. This extension of the meaning of intuition is undeniably a forward step, as in consequence of it the problem of evidence is rightly placed on a basis of intuitive procedure instead of determinate logical feelings. A completely clear distinction, to be sure, is not given between this field and that of pure thought; such a distinction would be of the greatest importance, however, as it would finally succeed in placing in a new light the problem of intellectual intuition, which Kant regarded as the fundamental problem of metaphysics. This phenomenology is not entirely lacking in metaphysical tendencies, even though it seeks to limit itself to an immanent analysis of the data of consciousness. The character assumed by the problem of the outer world should be especially mentioned. There is a definite rejection of the theory, shared by empiristic and rationalistic systems, according to which that which is given in perception is an image or symbol of the real metaphysical attributes of things. Such a conception always implies that the actual object and that which stands for, or symbolically represents it are distinct, while Husserl emphatically insists that the physical thing and the thing perceived are one and the same. The physical thing is merely the perceived phenomenon *logically determined*. Thus thought does not leap over into a transcendent sphere, but follows to the last attainable step the course which

lay open from the sphere of perception. It now becomes clear that Husserl's methodological attitude toward the problem of 'being' is entirely similar to that of Neo-Kantianism, and for that reason, too, he shares in all the difficulties which the latter standpoint encounters. This relates especially to the concept of 'pure consciousness,' as it is not clear how such a concept, as a strictly logical structure, can solve the fundamental problem of reality. The assertion of the necessary identity between the thing perceived and the physical object can by no means be regarded as overcoming the difficulties of the position. As an illustration, we need only ask how unification is to be thought between such heterogeneous complexes as colors and tones on the one hand and atoms on the other. As far as the plan of the phenomenology has been developed up to the present, it seems that with all the minuteness of analysis and delicacy of shading in which Husserl shows himself a master, there is still wanting a clear and definite separation and demarcation of two possible views which we may designate in a general way as the subjective and the objective. The descriptive, phenomenological analysis of essence-structures must still be distinguished from an adequate treatment of values in the sense of a closed system of knowledge. In a word, the boundaries between psychology and logic are not yet drawn sharply enough, in spite of all the refutations of psychologism. Hence we find some justification for the objections of the logicians against the exclusive domination of phenomenology brought about by Husserl's work and also by the important contributions of his collaborators. Among the latter, Scheler's *Der Formalismus in der Ethik und die materiale Wertethik* is worthy of especial mention.

Meinong's *Gegenstandstheorie* has many points of contact with Husserl's phenomenology, and both authors recognize this relation. They do not fully coincide, however, and this applies not merely to divergences in individual results, but to more fundamental differences in their methodological bases; with the 'objectivity theory' seems to lie the advantage of a sharper drawing of the lines. A programmatic outline of the theory is to be found in Husserl's observation that the old ontological theory

that the knowledge of possibilities must precede that of realities is, rightly interpreted and applied, a profound truth. The historic connection of this view with the classically based Wolffian ontology has been appropriately emphasized by recent writers, especially by Pichler. The essential point here is again the separation of the 'how' from the 'whether' of being, or, as we may also express it, of essence from existence. The essence relations are to be discovered independently of the question of realization. The position of the *Gegenstandstheorie* is accordingly dissociated from the problem of existence and leaves factual reality out of consideration. Its procedure is, however, distinctively one of objectification and not of psychologizing, as it is concerned with the actual structure of knowledge values. It is differentiated from Kantian apriorism by two characteristics, though, more strictly regarded, the two may spring from a common root. The categories of the critical philosophy are also ideal, that is to say, independent of existence; they are derived from no experience, yet they are immediately related to experience in a teleological way and hence form a basis for the problem of being. Probably closely connected with this is the fact of Kant's exclusive, one-sided orientation of the theory of the categories in relation to mathematics and physical science. In opposition to this, Meinong's field of investigation is limited by no such restrictions. He seeks the *a priori* in every region of the given; it is characteristic of his method that he finds the archetype of apriorism in the comparing activity itself. For example, if two colors are under consideration, each of them is a datum of experience, but the discernment of their difference requires for its explanation no especial act of experience. It announces itself in an act of intuitive certainty which is completely independent of that through which the two related experience-contents are recognized. It is obvious that apriorism here penetrates much farther into the sensible than with Kant, who, with the exception of the pure concepts, does not go beyond the forms of intuition. That these investigations cover much psychological territory in spite of their general logical character, follows of necessity from the nature of the problems treated. In Husserl's *Abhandlungen*

zur Erkenntnistheorie und Gegenstandstheorie (Leipsic, Ambrosius Barth, pp. x, 554), in the second volume of the collected discussions, are included studies on the Theory of Relations, on the Epistemological Evaluation of Memory, on the Significance of Weber's Law, on Higher-Order Objects and Their Relation to Inner Perception, and on the *Gegenstandstheorie*. In following this series of investigations, the author's intellectual development gives its characteristic stamp more and more to his work, and the transition from the psychological method to that of the 'objectivity theory' is more and more prominent.

Oesterreich's able and suggestive volume on *Die Phänomenologie des Ich in ihren Grundproblemen* (Leipsic, Barth, pp. vii, 532), falls in the same general field of discussion as the foregoing. As the title itself indicates, the fundamental interest of the work relates to the foundations of psychology. It aims to place the subject in the proper light and bearing by clearing it of the prejudices incident to the carrying over of objective standards into the field of consciousness. As I have previously pointed out in my introductory paragraphs, the extraordinary development of the natural sciences and the turning of philosophical interest toward the problem of nature, led to the intrusion of the objective method into psychology, where it must necessarily come into conflict with its subject matter. The author referred to sees the extreme embodiment of this error in the sensualistic theory according to which the Ego is the sum of the feeling-contents. Condillac, Hume, and recently, Mach, have been historically its most influential representatives. For substantiating it, recourse is often had to the subjectivity of sense impressions. Oesterreich, however, rightly points out the error and equivocation of epistemological and psychological subjectivity. While the sense-content does not exist, as naïve realism assumes, yet it is no more an appurtenance of the Ego; it is also a comparative stranger to the critical realists and the idealists. To the Ego belong the *acts* of feeling, perceiving, representing, and thinking, which Oesterreich has attempted with apparent success to distinguish from their contents, and, more especially, feeling and willing. The identification of the will with the Ego, met with

in many strict voluntarists, is here denied. From this it is clear that with respect to his conception of the Ego, the author adopts the attitude neither of a positivistic phenomenalism nor a metaphysical substantialism.

The book contains, as well, many extended and valuable discussions in the field of logic and the theory of knowledge. The author inclines unmistakably toward critical realism. It is essentially because the Ego is something other than the sum of its sense-contents that it can objectify the latter and conceive them as an outer world independent of itself. But this conceiving must also be always a distinguishing; an immediate awareness of external reality, whether of things or of the consciousness of our fellows, such as intuitionism assumes, is untenable. Herein is contained at the same time a protest against the mystical turns in modern epistemology.

A wholly different standpoint, though one quite in the general direction of the problems we have discussed, is adopted by Natorp's *Allgemeine Psychologie, 11. Buch. Objekt und Methode der Psychologie* (Tübingen, Mohr, pp. xii, 352). This work must immediately arouse the greatest interest since in it one of the best-known representatives of classical 'logism' expresses himself concerning a field in which the Logos seems to find its limits. In our introduction, it will be recalled, we referred to the fact that the methodology of 'logism' has succeeded in displacing that of 'psychologism.' The question then becomes the more important as to what form psychology is to take when reconstructed in its proper domain. Natorp had already answered preliminary questions in his *Einleitung in die Psychologie* written some time ago; Cohen also, in the last part of his *System der Philosophie*, suggested a new treatment of psychology. This is regarded as the final significant result of the critical procedure. The point of departure is not the facts of the mental life but those most objective manifestations, the valuation processes and spiritual activities in which it objectifies itself, the fields of logic, ethics and aesthetics. Psychology is then frankly a process of *reconstruction* of the mental out of these its factual productions. The *empirical* can only be conceived in terms of *pure* thinking,

willing and feeling. Natorp too holds to this general direction. Yet a difference seems to persist between his view and the plan of Cohen's psychology as far as can be judged from the works of the philosopher hitherto published. Cohen derives the psychical immediately from the objective as its presupposition or realization-form. Natorp advocates a reversal of this whole point of view; the function of 'objectification,' he opposes to that of 'subjectification' as a basis of psychology. The crucial point in his thought is revealed in the leading principles of the Marburg school. It consists in the fact that to the dogmatic conception that the subject and object are ultimately given factors which thought always finds already present, is opposed the critical view, according to which subject and object are only constituted by fiats (Setzungen) of thought itself. Logical idealism hopes especially by adopting this course to ward off suspicion of subjective idealism or idealism of mere consciousness. Now the question is supposed to be not so much to construct psychology out of logical materials, as a parallel science 'beside' the others, as to provide a transcendental foundation for it. Then it would be, as Natorp is never tired of emphasizing, a mere science of objects, and not a science of the subject, which is its innermost problem. According to this, the objectifying procedure is inapplicable here, for it would assume that the real object of psychology forms a portion of existence, coordinated with the objects of the other disciplines and forming with them the whole of the existent. But this is not true. The relation of the subjective to the objective is, according to Natorp, not that of one part of a sphere to another part, inside of a whole equally including both. He declares himself an opponent of the theory, which we find permeating the thought of Oesterreich and many other psychologists, that any limited group of phenomena, such as feeling and will, constitute the Ego, or that the latter is to be sought in the activity of mental life, or specifically, in acts as distinguished from contents. He denies any fundamental duality of activity and content; activity is also content, in so far as it is known, and it is as the most general reference point of content that the Ego figures. The process of subjectifying cannot then

consist in the selection and fixing of certain contents or content-groups, but in an attitude which equally includes all, but in a sense radically opposed to that of the method of objectification. "Only in knowledge are subjectivity and objectivity, or rather subjectification and objectification to be distinguished as two different 'directions of the knowing process.' Or, we may distinguish the appearance simply as such from its two-fold contemplation: on one hand as an appearance for consciousness, and on the other as an appearance of an object." Subjectification is supposed to restore the character of the immediately experienced out of the objective product of consciousness. It may appear somewhat surprising that uncompromising logism here arrives at a result akin to that of Bergsonian intuitionism. Natorp combats this position at length, and not merely in a polemic against the French thinker's negative estimation of the logical; he finds rather an impossibility in the contention that the immediately experienced should be cognized simply in the form in which it is experienced. It can only be disengaged, he thinks, from its conceptual envelope by an infinite process of subjectification corresponding to the infinite process of objectification. That is, it can not be grasped by a mystical suspension of the intellectual function, but only by means of this function, exercised, however, in a reverse direction. It is clear that this procedure stands in the closest relation with Husserl's *Phänomenologie* which also, it will be remembered, seeks to get back of the objective character of thought to the problem of the pure consciousness on which it rests. The phenomenological procedure is likewise one of 'encompassing.' It strives by drawing more and more narrowly the bounds of objective determination, to fix the attention on the original pure form of the experience. What Driesch calls *Ordnungslehre* seems also to aim at a similar goal.

Our study of the leading thought currents has substantiated the reference made in the introduction to the central position occupied by the psychological problem. It may be described as a peculiar sort of impressionism, comparable to certain movements in recent art, which thus finds expression in the character

of the mental life. It is most sharply brought out by Natorp: the mental life is to be understood through a sort of opposition to or struggle against all objectification of value. Two considerations are to be noted in reference to the discussion. In the first place we must ask whether the fundamental basis of the logistical conception of the nature of reality, which also determines its anti-metaphysical attitude, does not become involved in uncertainty in Natorp's treatment of psychology. The final result of the process of subjectifying reconstruction can only signify the reduction of the reality in the object to the pure immediacy of experience. In that case there would either be two sorts of existence, one founded in import (Gelten) and the other in life, or else, if this duality appeared untenable, it would become imperative to subject the whole logistical concept of reality to a revision to avoid the opposition between it and life. From this it would follow in the second place, that the spheres of life and of import would stand in a very different relation to each other and that their coincidence would be achieved at once instead of only at the end of an infinite logical process. Thus only could the absolute opposition be overcome between subject and object, which is inconsistent with the monism of the transcendental method. In this way we should be given a new metaphysics, a doctrine of 'being' as an identity of value and reality; it would mean the reconciliation of intuitionism and logism which has been striven for in Germany. Attempts in this direction are by no means wanting in the most recent literature. An example is Zschimmer's *Welterlebnis* (Leibzig, *3 Teile nebst Anhang Prolegomena zur Panlogik*), a book marking a return to Hegelian viewpoints. The 'logic of oppositions' here expanded, seeks the synthesis in the concept of life, which accordingly is not taken in an alogical sense, but rather as the concrete unity of the reality of nature with the ideal spirit. This deeping and broadening of the concept represents the only possible form under which can be effected the reconciliation of the metaphysical vitalism of the 'life' philosophy and the pure logism of the 'import' philosophy. It corresponds with this fundamental broadening of the basic principle that the categories of mood (Gemüt) and passion are included in the new system.

Simmel's very intelligent discussion in *Logos*, " Das individuelle Gesetz," tends toward the same final result, attempting to discover in the concept of individuality an existence-structure logically formed. The further effort is made to isolate in the individual life a sphere which is neither the purely general of the concept nor the purely particular of the irrational unique detail, but both in one. Individuality is hence rigidly distinguished from subjectivity, or more exactly, it is defined as the synthesis of the subjective and objective principles. It is a form amenable to law, yet one in which is included a real, individual, concretely experienced element. Here again the effort is clearly visible to combine organically with Bergson's conception of the mental as purely dynamic, the formal principle of logic. The attempt is promising to say the least; the possibility of a new metaphysic can only be won where the *idea* is represented as a *living entity*.

OSCAR EWALD.

THE TIME-PROCESS AND THE VALUE OF HUMAN LIFE. I.

IN the present paper and one that is to follow it I wish to consider the relation between the time-process and our estimate of the worth of the individual human life. There are four values in terms of which we are wont to measure this worth—truth, goodness, beauty, and pleasure. Whether each of these is an ultimate, so that there are four coördinate values; whether one of them is ultimate while the others are derived from it; whether all four are so many different aspects of one supreme value; or whether, finally, only the first three are values, while the last is rather the sense of value, it is not necessary for us to decide here. For our investigation is based upon the judgments that men actually pass upon life, and there can be little question that they commonly estimate it in terms of truth, goodness, beauty, and pleasure.[1]

These four values are realized, to a greater or less extent, in the lives of human beings. And in so far as they are incorporated in a particular life, we think of it as possessing value, as good.[2] The purpose of this paper is to inquire whether the worth of a given realization is affected in any way by its temporal position, whether the attainment of truth or of moral goodness in one part of a human life is regarded by us as more (or less) valuable than its attainment in some other part of that life would be.

We may consider first the evaluation of life in terms of pleasure

[1] It may be thought that to these four we ought to add a fifth—the religious value. This suggestion, however, raises various questions, as to the nature of morality and religion and the relation of the two to each other, into which we cannot enter here. And fortunately it is not necessary, for the purposes of our study, that we decide whether the religious value is distinct from the moral or not. For so far as the conclusions of this paper are concerned, it is in precisely the same position as the moral value, so that if we added it to our list it would neither throw any new light upon our problem nor necessitate any change in our conclusions.

[2] The word 'good' is obviously used here in its broader meaning. In the broader sense of the term whatever is valuable is good; in the narrower sense only that is good which has moral value.

and pain. Can we assert that the importance of a pleasurable or painful experience is quite independent of its temporal position, or must we say, on the contrary, that the temporal position is itself a factor of the (positive or negative) value of the experience? Apparently the latter is the case. The pleasure of one moment, it would seem, is capable of being spoiled by later pain; and in like manner the earlier pain may be atoned for by the later pleasure. But the reverse is not true. Earlier joy does not compensate us for later sorrow; nor does the earlier suffering destroy the value of the later happiness.[1] In general the pleasure-pain value of a later stage seems to have power to cancel that of an earlier one, while the value of an earlier stage has no such influence over that of a later one.

At first thought it might seem that this one-sided relation between 'earlier' and 'later' is simply a special case of the overwhelming importance of the present, as contrasted with both past and future. The pleasure-pain value of the present moment, one might urge, is of supreme consequence to us; and for this reason the glow of present joy or the chill of present sorrow can destroy the affective value of either past or future. But this insistence upon the swamping influence that the present often exerts, does not suffice to explain the peculiar relation between earlier and later which we are considering. For the unreflective consciousness the present has, it is true, supreme importance. But as soon as man begins to reflect, the case is altered. Whereas the naïve consciousness, absorbed in the present, ignores the value of all else, in man as a reflective being there appears a disposition, not to set present over against past and future, but rather to contrast later with earlier and to believe that the pleasure-pain value of the later stages of life, is, somehow, of more consequence than that of the earlier stages. It is true that this disposition does not completely overpower the other tendency to assert the importance of the present. And it is well that this is so. An utter disregard of the present in the interests of the future would be disastrous for our happiness in more respects than one. But

[1] It is obvious that in so far as the memory of a past experience is pleasant or painful, the pleasure or pain is to be credited to the account of the moment of remembering.

although the tendency to consider the future does not, and should not, destroy for us the unique significance of the present, there can be little question that it plays an important part in our estimate of the pleasure-pain value of life. That it does this is shown in two ways, (1) by certain choices that we make and (2) by the way in which we estimate the affective value of a particular life when we view it as a whole. We must consider each of these.

In the act of choice we often show a tendency to defer our pleasures which seems to me to involve the feeling that the affective tone of the later stage in some way counts for more than that of the earlier. We have a crude illustration of this in the child's impulse to save until the last the choicest morsel of his piece of cake, and a more complex instance in the case of the man who toils and economizes through a long life in the hope of enjoying leisure and freedom from financial worries in his declining years. This tendency, as we have suggested, implies a certain capacity for reflection. The very young child is not likely, if left to himself, to 'keep the best till the last.' To him the immediate present makes the strongest appeal, and the probability is that he will take the best morsel first. But when he is a little older we see him proceeding quite differently, and often, I think, without any direct suggestion from his elders.

It must be admitted that from the pleasure-pain point of view it is not always the part of wisdom to try to keep the best till the last. If we are eating cake, the keen edge of our appetite may be dulled before we reach our choicest morsel, though this catastrophe is perhaps not likely to befall the healthy boy. If we are trying to acquire a competence, death may cut us off in the midst of our labors before we have even a taste of the pleasures for which we have been working. Or if we live to 'retire,' we may find that failing strength leaves us little capacity for enjoying the leisure and travel that we have long promised ourselves. The wisdom of the admonition with regard to 'birds in the hand' has been brought home to us by many a sharp experience. But this undeniable fact does not alter the significance of the tendency that we are considering. All that it

shows is that it is sometimes not possible to keep the best till the last, either because of the general uncertainty of life or because of the nature of the treasure in question. It still remains true that other things being equal, there seems to be a tendency on the part of those who reflect, whose actions are not purely impulsive, to subordinate present to future pleasure. That uncertainty with regard to the future often prevents other things from being equal does not affect the question at issue.

It seems then that acts of human choice often reveal a belief that the pleasure of the later stage of life is more important than that of the earlier. But there is another, and to my mind a more significant, way in which the belief is manifested, and that is in the judgments that we pass upon the affective value of human lives when we consider them as wholes. Suppose that we were asked which we should prefer, a life with much suffering in the earlier part but crowned with peace and joy in the later years, or a happy early life followed by a sorrowful old age. It is difficult of course to keep the question of pleasure and pain free from other considerations which to most of us seem of greater importance. But if we try to hold ourselves strictly to the affective point of view, it seems to me that every one would choose the life of the former type. For ourselves and for those whose happiness is dear to us we deem it desirable that the "last of life" should be "the best." And we should choose this, I think, even if it involved some predominance of pain over pleasure in the life as a whole. Most of us, that is, would choose a life in which there was somewhat more pain than pleasure but in which the pleasure predominated in the latter part, rather than one in which there was somewhat more pleasure than pain, with the pain predominating in the later years.[1]

[1] How great a predominance of pain over pleasure can be compensated for by the later position of the pleasure is, I confess, hard to say. And I must admit also that it is difficult to determine to what extent high degrees of pleasure or pain outweigh for us more prolonged or more frequent affective experiences of moderate intensity. But while I recognize that these admissions weaken my case somewhat, it seems to me that in spite of them we must say that in our estimate of the affective value of life there is a marked tendency to lay the greater emphasis upon the quality of the later stages.

It may be that there is some absurdity in any effort to balance pains against

This disposition to lay especial emphasis upon the character of the later stages of life is shown in our estimate of the careers of historical personages. And it appears also when we consider the lives of characters in fiction. If, *e. g.*, we look at the novel or the drama quite naïvely, abandoning the point of view of æsthetic judgment, we call the story a happy one if the hero is led, albeit through great trial, to happiness at the end; but no matter how much of joy he may experience through the larger part of the history portrayed, the story is deemed sad if the life ends in gloom. "Call no man happy until his death," counseled the Athenian sage. For no matter how one's life may be filled with good fortune, there may come at the end some sudden catastrophe that turns to bitterness all the joys of the earlier days. And in like manner we might say, "Call no man unhappy until his death." For perchance the sorrows of many years may be more than compensated by joy in the end.

It seems then that in estimating the affective value of a life or of some part of it we take into account the temporal relations. Pleasure-pain value appears thus, not as independent of the flow of the time-process, but as vitally affected by it. And the same thing is true of moral value. The earlier part of a man's life may be marred by serious defects of character and even by defiance of some of the fundamental laws of morality. But if in his later years there is indication of a genuine change of attitude, of a sincere devotion to higher ideals, we feel that the evil past has been atoned for by the later uprightness. It is true that the tendency of modern thinking is to emphasize the exceeding difficulty of breaking completely with an evil past. The force of wrong habit, the subtle bonds that fetter us to our earlier weaknesses even when we think that we have risen above them, we are not permitted, in this day and generation, to forget. However deep the repentance, we are told, however sincere the turning

pleasures or to determine the relative values of different pleasures. Certainly, exact evaluation is well-nigh impossible. But similar difficulties would be encountered, I suspect, in the attempt to estimate the worth of life from the moral, intellectual, or æsthetic point of view. Moreover, whether exact evaluation is possible or not, the fact remains that men insist upon trying to estimate life in terms of all four of our values.

away from the former mode of life, the man must go scarred and enfeebled, even to the grave. But this, after all, furnishes no argument against the point that we are making. What it tells us is that the later years seldom, if ever, attain to complete triumph over the evil tendencies of the earlier. And what we are urging is that in the degree in which they do win the victory, the past—in so far as the moral worth of the individual is concerned—is atoned for.

The same principle holds when the temporal relation of the moral values is reversed. Many a life whose earlier years show much of generous impulse and high enthusiasm seems to grow poor and petty as the years pass. And not infrequently a career which in its beginning has been marked by uprightness and honorable dealing ends in moral downfall. Now in both these cases we measure the ethical quality of the life by that of its later stages. What shall profit a man the high ideals and the upright conduct of his earlier years if the latter life has sunk to a low level? The graces of character that flowered in the earlier time count for little in our eyes, if in the later years they cease to bloom. From the moral point of view as well as the affective, we regard the later stages of life as more significant than the earlier.

But here the objection may be interposed that this is chiefly because the quality of the life is more fully revealed to us in its later stages than in its earlier. A moral downfall in the latter part of a man's history leads us to suspect that the earlier goodness was not genuine. The weakness that made possible this breakdown must have been present, we say, from the first, but became apparent only under peculiar stress that did not exist earlier. And the same thing, *mutatis mutandis*, may be said of the man who begins to order his life aright only in its later years. There is really much of good in him from the beginning; but through the force of circumstance it was prevented from manifesting itself during the earlier years. The difference in moral quality between the earlier and the later part of a man's life is then far from being as great as it seems. And the later stages are more important for the estimation of its worth, mainly because they reveal that worth more clearly.

But to this contention it is not difficult to make reply. We shall of course readily admit that both moral downfall and moral ascent are matters that involve time, that neither saint nor sinner is made in a day. And it is also undeniable that outward goodness is often far less good than it seems, and outward badness less bad. But even when all this has been granted, one is hardly justified in saying that there are never real differences in moral quality between the several stages of a life. It may be that in many cases the difference is chiefly an outward one, but even here it would be rash to say that there are no internal differences. And, further, there are other cases in which it seems difficult to believe that there has not been a radical change (for better or for worse) in the moral quality of the life. If even here we insist that there has been no change, this must be because we hold a certain theory about the nature of human life and its relation to time which does not admit of our supposing a real change in character to be possible. In our next article we shall have to consider this theory briefly. At present, however, our concern is to determine how the ordinary man estimates the moral value of life. And there can be little doubt, I think, that men commonly believe (1) that the ethical quality of a life may actually undergo change, and (2) that it is a matter of supreme importance whether the period of nobler living be at the beginning or at the end of the history. In the case of moral value as in that of pleasure-pain, we tend to regard the quality of the later stages as all-important.

One thing must be said, however, in qualification of this. Except in the case of a serious moral breakdown, we incline to look with some leniency upon the moral defects of extreme old age. It is a sad truth that many a life which has maintained a high level of conduct and character through the greater part of its course is marred in its closing years by defects of temper, pettiness of aim, and a miserable limitation of interest to its own physical well-being. But for the most part we feel that we ought to deal gently with these and kindred weaknesses. This is doubtless because we believe that the man is not altogether—perhaps not at all—responsible for the change that has come over

him; that bodily infirmity has obscured the clear shining forth of the spirit; and that the querulousness and pettiness which cloud the last years of an otherwise beautiful life are not a true indication of what the man is.[1] He is no longer quite himself, we urge; his real self is something nobler than this that we now see. But we are mild in our judgments only because we believe this, not because we have any doubt that the ethical quality of the later character counts for more than that of the earlier.[2]

The case of intellectual and æsthetic value is more complex than either of the two that we have considered. From one point of view it seems that the values of truth and beauty, when incorporated in the individual human life, are protected from the vicissitudes of time in a way in which neither pleasure nor moral excellence is. The happiness or goodness of the earlier part of a life counts for little or nothing, apparently, if its later years are filled with suffering or characterized by serious moral defect. But if a man, while comparatively young, discovers a great scientific truth or produces a supreme work of art, his achievement cannot be spoiled by anything that he may do or fail to do subsequently. What he has done remains, secure from the inroads of time and change, a κτῆμα ἐς ἀεί and a lasting glory to his name.

One reason for this peculiarity in our estimate of intellectual and æsthetic achievement is that they seem to us more objective and impersonal than either moral attainment or happiness. The work of art, once produced, and the truth of science, once discovered, seem to have an existence independent of the individual creator and discoverer. They detach themselves from him and become the property of every one who can appreciate and use them. Such detachment from the personality of the individual is not possible in the case of pleasure and pain. And it is characteristic of moral excellence only in a quite secondary sense, in the sense, namely, of the effect produced upon others by one's

[1] Under similar circumstances we make allowance for defects of temper and waywardness of conduct that manifest themselves at any time of life.

[2] This is borne out by our feeling that even if the man is in no degree responsible for the pettiness of his declining years, it is still unutterably sad that a brave spirit should have fallen to this low estate.

conduct. When we say that from the moral point of view a life that begins wrong but ends right is better than one in which the ethical values of beginning and end are reversed, we are looking at the individual life in itself and are estimating its inner worth; we are not considering its effect either upon the happiness or upon the moral welfare of other persons. Now it seems possible that of two given lives, the one which in itself we regard as the better may have been in its outward effects less productive of good than the other. In this case, then, we might say that moral excellence as well as intellectual and æsthetic achievement may be viewed in detachment from its possessor, and that, as so regarded, it has not the same relation to time that it has when considered as attaching to the individual. But it must be remembered that this is true of moral attainment, as has been said, only in a very subordinate sense. Morality is primarily a matter of the personal life, and to consider it simply in its effect upon others is to neglect its fundamental aspect. Apparently, however, we can detach scientific and artistic achievement from the personality of the individual—in the way that we have described—without thereby ignoring their deepest significance.

But while it is without question that they can be more readily separated from the personality than moral attainment and pleasure-pain can, it does not follow that we must thus detach them. Let us rather try to consider them as an integral part of the personality, and from this point of view let us ask whether they show the same immunity to change that they reveal when taken as detached. The question is hard to answer because of the difficulty of entirely ruling out affective and moral considerations. I suppose there is little doubt that other things being equal, we should choose, for ourselves or for others, a life in which intellectual activity and the capacity for creation or appreciation in the realm of art reached their height in the later years rather than in the earlier. But this does not necessarily mean what one might at first suppose. For it is possible that in this case we are estimating the value of life in terms either of pleasure or of moral excellence. The man whose later attainment in science or art does not fulfil his earlier promise is frequently aware of his failure

to attain the level that he once reached, and this consciousness is usually a source of much suffering to him. If, however, he does not realize his failure, or if, realizing it, he is not saddened by it, this is often because of some slackening of ambition which we are apt to regard as implying a certain moral deficiency. We suspect that his intellectual and æsthetic ideals have lost their hold upon him; and it is natural to explain this by saying that he had not the strength of purpose to persist in cherishing them in face of the difficulties created by his environment. This twofold relation—to pleasure-pain on the one hand and to moral worth on the other—makes it difficult to say whether temporal position has any significance for us in the case of intellectual and æsthetic good as such. I incline to think, however, that it has (though it seems a less important factor here than in the case of the affective and moral values). In general we judge a man, intellectually or æsthetically, by his highest achievement, at whatever time of life it comes; but under certain circumstances, relatively poor work detracts to some extent from our estimate of the intellectual or æsthetic worth of the man, as distinguished from that of his great achievements. What now are the conditions under which poor work thus affects our evaluation of the man himself? In the first place it must be later than the high achievement. If it is earlier, it is completely atoned for by the glory of the subsequent attainment, and we judge the man solely by the height that he has finally reached. In the second place the poor work must be either considerable in amount or very poor in quality in order to weigh against one. An occasional descent to a low level of performance we regard as due to relatively external conditions, not as indicative of an actual falling off in power.[1] And in the third

[1] This is particularly true in our estimate of æsthetic achievement. The reason for this is that the work of the artist, much more than that of the scientist, is characterized by unevenness. In the realm of æsthetic achievement in all its forms, even the most gifted of men often fall short, in greater or less measure, of the height attained in some single production. And it not infrequently happens that an artist whose ability is of high order gives to the world, every now and then, a work of unquestionable mediocrity. It is more commonly true in science than in art that all a man's work, for a considerable time, represents a high level of attainment. And for this reason we are apt to be more severe in our judgment of an occasional descent to mediocrity in the case of the scientist than in that of the artist.

place if the deterioration in the quality of the work seems to be due either to old age or to other physical disability, it does not affect our judgment of the power of the man. Now these are the same modifying conditions that are operative in the case of moral value. And we are therefore justified in saying that our judgment of the intellectual and æsthetic values, so far as they are incorporated in human lives, is influenced by temporal position in the same way, though perhaps not in the same degree, as is our judgment of the moral and affective values.

But we have not yet considered the intellectual and æsthetic values from quite the same point of view from which we discussed goodness and pleasure-pain. For, in the first place, we have been speaking of the unusually gifted, rather than of the ordinary man, whereas our account of pleasure-pain and moral worth applies to men of all sorts. And, in the second place, although we have tried to look at the matter from the point of view of personality, still we have been estimating the intellectual and æsthetic attainment of men by the products that they give to the world, not by what they themselves are. We shall have a closer parallel to the case of the other two values, if we take as the subject of our consideration the ordinary man of education and culture, and if we regard, not so much the products of his intellectual and æsthetic activity, as the part that this activity plays in his own inner life. Pleasure-pain is wholly a matter of the inner life, and morality is primarily so. It is true that we do not believe whole-heartedly in an inner moral worth that does not find some expression in action. But the fact remains that when we are judging of the worth of the personality, as distinguished from the influence of its deeds upon the happiness or the morality of others, our emphasis is upon the inner life itself, and the actions are valued simply as indications of its true nature. Although we feel that a goodness which does not express itself in some way or other is probably not genuine, we realize none the less that the important thing is the goodness rather than the expression. In like manner we may say that, so far as the personality is concerned, the essential thing in matters intellectual and æsthetic is not the outward performance, but the inward attainment—keenness of

thought, independent judgment, openness to what is noble and beautiful in art and nature. It is not important that every man should engage in scientific research, or produce paintings or poems; it is important that every man should have a rich and full intellectual life and that he should have some points of contact with the beauty of nature and the greatness of art.[1]

And from this point of view it seems more obvious than from either of the earlier ones that for the intellectual and æsthetic values, as well as for the others, the temporal position has significance. If we are convinced that intellectual stagnation has taken the place of a quick and active mental life, we judge the man intellectually by what he is, rather than by what he was. If love of beauty has died out in a human soul, it avails little, we think, that it once burned with a pure and living flame. And on the other hand we feel that a later development of interest in the intellectual and æsthetic sides of life atones, in large measure, for an earlier insensibility to them. The later stands for the earlier in a way in which the earlier can never stand for the later.

It may be well at this point to apply to the case of the moral, intellectual, and æsthetic values an observation that we have already made in connection with pleasure-pain—the observation, namely, that our tendency to regard the later stages as more significant than the earlier cannot be reduced to the feeling that for us human beings the present is of supreme importance. It is true of course in moral, intellectual, and æsthetic experience, as in affective, that the present has for us a kind of reality that neither past nor future possesses: it is our point of direct contact with the rest of the universe. And in this respect—directness

[1] It is probable that considerations like these often influence us when we judge of the intellectual or æsthetic worth of a man who at one time in his life achieves great things, but whose work thereafter falls far below this earlier attainment. If we have reason to believe that his inner life still maintains its former character, we continue to estimate him highly in spite of the fact that his later achievement is disappointing. For we know that there may be barriers which keep the light that is in him from shining out into the world, although the flame may still be tended with devotion and be burning brightly. But if we believe, rightly or wrongly, that the inferior character of the outward performance corresponds to a dying down of the inner life, our sense of the worth of the personality is lessened.

of contact—it may be said to have supreme importance for us. But it is clear that in estimating the value of life we do not always oppose present to past and future; on the contrary, in our most serious attempts at evaluation we contrast 'earlier' and 'later' rather than 'present' and 'not-present.'[1] However firmly we may be convinced of the importance of the present for the actual business of the living of our lives, the fact remains that when we view any life as a whole and try to determine its worth, we regard the quality of its later stages as of greatest importance. If the life has not yet been brought to an end by death, the 'present'—taken as having considerable extent, *i. e.*, as including the less remote past—will be its 'latest stage,' and we shall say that what you are, not what you have been, determines your worth. If the life has already come to an end,[2] all parts of it belong to the 'past'; but except in cases where we feel constrained to make allowance for the disturbing effects of bodily infirmity, we measure its inner worth chiefly, perhaps wholly, by the quality of its later years.

It seems then that when we estimate the value of an individual human life—be it in terms of pleasure-pain, of moral excellence, or of intellectual or æsthetic activity[3]—we feel that the quality of its later stages should have far more influence in determining our judgment than that of its earlier ones. What I was—

[1] The distinction between earlier and later furnishes a better basis for evaluation because the relation expressed by these terms is a permanent one. Whereas the 'present' is continually ceasing to be present and becoming past, a 'later than *A*' remains always later than *A*.

[2] I prefer not to raise here the question of a possible continuance of the individual life after death. Whether there is such continuance or not, from the point of view of our present knowledge we may look at the earthly life as a whole and may ask as to the relative value of different parts of it.

[3] For the purposes of this discussion we have found it convenient to consider the different values in isolation from one another, except in the case of the intellectual and æsthetic. And when men are actually passing judgment upon the worth of a life they are apt to take the values thus separately, to regard the question now from one point of view and now from another. But it seems clear that the four values are closely connected with one another and that any serious attempt to estimate the worth of human existence must take into account their interrelations and the question of their relative importance. For the discussion, however, of the problem with which we are concerned in this and the next paper it is not necessary to enter upon the subject.

intellectually, morally, æsthetically, affectively—is relatively unimportant; important is what I am and still more what I am to be. The significance of this peculiarity in our mode of estimating values and especially its bearing upon the question of the relation of human personality to the time-process will form the theme of our second paper.

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BERGSON'S CONCEPTION OF FINALITY.

IN another study[1] I have dealt with Bergson's conception of duration in so far as it directly concerns conscious existence. The discussion there was, consequently, largely psychological. But when we remember that duration must be predicated of reality itself, that "the universe endures,"[2] the problem of duration presents another aspect, which the former study neglected. It is with this aspect of the problem of duration that we are here concerned. What is the nature of reality as enduring? is the question that we shall here attempt to answer. And with this question we are, of course, confronted immediately by the problem of finality.

A partial answer to this question has been furnished by the previous study. If reality may be said to endure, then it naturally follows, since duration is defined only on the basis of conscious existence, that the real exists after the analogy of consciousness; that is, that the real endures in the same manner in which consciousness itself endures. Now the preceding study has issued in the conclusion that consciousness as enduring is through and through teleological, that the experience of duration itself is possible only because of the teleological nature of conscious experience. Apparently, then, the world as enduring must be explained teleologically, and one would naturally pass on to a consideration of the nature of the teleology implied in its existence.

But just here a difficulty meets us. Bergson objects most positively to finalism as an explanation of reality. For, he urges, finalism logically involves the conclusion that time is not predicable of reality; and in his opinion this is, of course, a fatal objection to the theory. Reality must be a process before which "the portals of the future remain wide open"; but finalism closes these portals and locks them fast.[3] To say that the world-

[1] PHILOSOPHICAL REVIEW, Vol. XXIII, pp. 525–539.

[2] *Creative Evolution*, p. 11; see also pp. 217, 239, 272, etc.

[3] *Op. cit.*, p. 105.

process is only the realization of a plan which is eternally present in some Absolute Consciousness is to make of the temporal series nothing but a sham reproduction of that which, by hypothesis, is of such a nature that it cannot be reproduced. Like mechanism, finality presupposes that 'all is given': in fact, finality is just mechanism inverted and involves all the difficulties attaching to that theory. The world which it posits is static and barren, the most unreal of imaginable worlds. Such is Bergson's objection to teleology, and we must clear the objection away before we proceed in our discussion.

In beginning our consideration of the objection we must note carefully what sort of finalism it is that Bergson has in mind here. He is frankly thinking of that type of teleology which conceives of the world-process as the realization of an exact and predetermined plan. Finality, we are explicitly told, "says that the parts (of the world) have been brought together on a preconceived plan with a view to a certain end. In this it likens the labor of nature to that of the workman, who also proceeds by the assemblage of parts with a view to the realization of an idea or the imitation of a model."[1] Reality, then, as teleological finalism conceives it, has a clearly defined and an unchanging end in view which it steadily and unswervingly pursues.

Now the choice, Bergson thinks, is between this conception of finalism (if we agree with him in surrendering mechanism as an impossible hypothesis) and his own peculiar view of creative evolution, which, though a sort of finalism, transcends both mechanism and the sort of finality which we have just defined. That view is, in brief, this: The world is the expression of one principle and so is, in some sense, a harmonious whole. This principle, however, is rather behind than before, an impulsion rather than an aspiration. Consequently, the harmony in the world is not perfect; indeed it exists 'in principle only' and not in fact, since there may be as much discord and confusion as happens to be necessary in the progressive expansion and differentiation of this original impulse into various forms. "Thus the wind at the street-corner divides into diverging currents

[1] *Op. cit.*, p. 88; see also pp. 39, 45, 51, 103, 104–105, 127, 223–224, etc.

which are all one and the same gust." Such, then, is the finalism that we must substitute for teleological finalism, when once it is seen that the latter will explain neither time nor the increasing multiplicity which time implies.

That teleological finalism, as Bergson defines it, is not a satisfactory theory of reality is, it seems to me, what all are compelled to admit. It unquestionably does make time unreal. If future events are already realized in the eternal consciousness which, presumably, entertains as an actual experience the plan of the world-process, then it is difficult to see of what significance from the standpoint of such a consciousness the successive moments of the world-process can be. If this process is merely the reproduction of a predetermined plan, if the 'divine event' which is the objective goal of evolution is in very truth already *an event*, if the world is only the exemplification of a model—if such be the situation, how can the temporal series be other than a reproduction, and an imperfect reproduction, too, of that which is real without it? To my mind, it is impossible to reconcile a static unchanging reality and a dynamic real world. The only conclusion which can consistently be drawn by a theory that maintains such a conception of reality, even though reality be defined as an experience, would seem to be that the dynamic world is, as such, unreal.[1] But if this be so, then we also are unreal: our struggles are useless; our moral efforts are vain; and the round of hours and days, which to us seems so real, is with all its joys and sorrows, its hopes and fears—nothing!

But having repudiated this sort of finalism, we are not necessarily limited in our choice to the theory of creative evolution which Bergson vainly tries to substitute in its place. As we have noted above, Bergson assumes that we are compelled to choose between this conception and his own theory of the world-process as an evolution of an original impetus which constantly breaks itself into fragments as it advances. The disjunction, however, is a false one. Between these two extremes is another conception of finality, which it is the purpose of the present

[1] Cf. Lovejoy, "The Obsolescence of the Eternal," The Philosophical Review, Vol. XVIII, pp. 483 ff.

paper to suggest. Before passing on to a statement of this third view it is necessary to say a word concerning the basis upon which Bergson's disjunction rests. A disclosure of the assumption which he makes and a criticism of it will aid us in further exposition.

The disjunction in question here is based on the separation between will and intellect which underlies Bergson's whole discussion of the problem of finality. Once this separation is made, the disjunction follows with unmistakable certainty. But if the separation can be shown to be a vicious abstraction, then the disjunction falls of its own weight and the third view, which it overlooks, emerges. It is thus necessary for us to consider the matter with some care.

That Bergson does make a separation between will and intellect seems to me unquestionable. Not only does his entire discussion of the nature of the vital impulse and its operation in the evolutionary process tacitly assume this separation; the separation is explicitly put and emphasized. "A conduct that is truly our own," he tells us, "is that of a will which does not try to counterfeit the intellect, and which, remaining itself—that is to say, evolving—ripens gradually into acts which the intellect will be able to resolve indefinitely into intelligible elements without ever reaching its goal. The free act is incommensurable with the idea, and its 'rationality' must be defined by this very incommensurability, which admits the discovery of as much intelligibility within it as we will. Such is the character of our own evolution; and such also, without doubt, that of the evolution of life."[1] Again, we are informed that consciousness is so constituted that it necessarily looks behind, and that "this retrospective vision is . . . the natural function of the intellect. . . ." But, in order to come into touch with reality, consciousness must forego this tendency of the intellect, must detach itself "from the *already-made* and attach itself to the *being-made*. It needs that, turning back on itself and twisting on itself, the faculty of *seeing* should be made to be one with the act of *willing*. . . ." In short, the consciousness which is involved in willing is not

[1] *Creative Evolution*, pp. 47–48.

the consciousness involved in intellectual activity; the two consciousnesses, or experiences, are so decidedly distinct from each other that they cannot exist together, the one is the inverse movement of the other.[1] And so the separation is complete.

Now when once this separation is made our disjunction is inevitable. If the will is the dynamic force in the evolution of life, which, because of its very nature, the intellect cannot touch, if the intellect can secure only superficial views of the process which the will initiates and keeps going, then it indubitably follows that the process is one of two things: either it is a process in which the dynamic force is exclusively a *vis a tergo*, or it is a process which simply fills in an outline in the making of which it is in no way concerned—in other words, it is either a creative evolution whose unity is an impulsion and nothing more, or it is a radical and external finalism. There is no third possibility.

But that such a separation between will and intellect is permissible is more than questionable. Even a glance at conscious experience is sufficient to disclose the fact that the abstract separation finds no support there. It needs little introspection to see that every act which may be called a voluntary act is conditioned, partly at least, by the idea or purpose for which the act is performed. Willing is always directed towards some end; it always involves the hope of accomplishing something or of removing some deficiency, and is never directed towards an impalpable void. As we ordinarily use the term, volition implies purpose. But in order for a purpose to exist there must be intellectual activity. The animal that acts as a result of pure instinct could hardly be said to will; it is only the animal that is capable of holding an end in view and of passing judgments of value upon that end whose action could be called voluntary. "When one acts under the control of an ideal or for the accomplishment of a remote end, one is ordinarily said to have performed a voluntary act; when one gives way to a desire of an instinctive nature, one is said to have acted on impulse. On the other hand, one is said to have acted voluntarily, if the act that corresponds to the ideal has been deliberately weighed against the desire, and

[1] *Op. cit.*, pp. 237–238.

then the desire has won. In general, voluntary acts are those which grow out of a conflict between instincts and ideals, in which ideals prevail."[1] But such a conflict is impossible apart from the function of the intellect: so much seems obvious. And so will would seem always to involve some degree of intellectual activity.

And, on the other hand, intellectual activity is as closely bound up with volition. To have ideas, to entertain ideals without willing, is as impossible as to will without an end in view. The solution of a mathematical problem involves volition as truly as does climbing a tree; and the conclusion reached by deliberation in connection with an ethical problem is identical with what we call will. Psychologically, reasoning is impossible unless some problem presents itself for solution, unless some check or hindrance in the flow of experience must be removed. And this presupposes volition within experience; for it is absurd to say that experience is thwarted, except it be of such a nature that it can be thwarted, that is to say, except it be voluntary. Ideas always imply some degree of active purpose in terms of which they secure their meaning. "A sword is an object that you would propose to use, or to regard in one way, while a pen is to be used in another; your idea of the object involves the memory of the appropriate act. Your idea of your friend differs from your idea of your enemy by virtue of your consciousness of your different attitude and intended behaviour towards these objects. . . . Intelligent ideas, then, belong, so to speak, to the motor side of your life rather than to the merely sensory. This is what Kant meant by the spontaneity of the understanding. To be sure, a true scientific idea is a mental construction supposed to correspond with an outer object, or to imitate that object. But when we try to define the idea in itself, as a conscious fact, our best means is to lay stress upon the sort of will, or active meaning, which any idea involves for the mind that forms the idea."[2] If, then, it be true that will is in some sense the expression of the intellect, it would seem equally true that intellectual activity is genuine activity, that reasoning expresses a voluntary attitude towards things and persons.

[1] Pillsbury, *Essentials of Psychology*, p. 309.

[2] Royce, *The World and the Individual*, Vol. I, p. 22.

But if this conclusion is correct, if it is a true inference from the facts of conscious experience, then no separation, no absolute separation, between will and intellect can be justified. Our loose terminology has led us into rather serious confusion here; popular psychology has made an absolute difference where there is properly only a difference in point of view, and we are prone to fall into the fallacy. But we must guard against it. As Hegel long since pointed out, and as many since his day have abundantly shown, man is not "on one side thinking and on another side willing, as though he had will in one pocket and thought in another. Such an idea is vain. The distinction between thought and will is only that between a theoretical and a practical relation. They are not two separate faculties. The will is a special way of thinking; it is thought translating itself into reality; it is the impulse of thought to give itself reality."[1]

Returning now from our excursion with the conclusion to which it has led us, and directing our attention to the problem in hand, we notice that the above disjunction, namely, either a finality that consists in the reproduction of an eternally realized plan or a finality that is from behind only, falls to the ground. We have discovered the possibility, nay, the necessity of another type of finality—a finality in which the creation of the ends that operate in directing and controlling the evolutionary process is a part of the process itself. We pass on now to a consideration of some of the details of this point of view.

At this point in our discussion it is necessary to recall the conclusion which was reached in the discussion of duration referred to at the beginning of the present paper. There our analysis disclosed the fact that conscious experience is teleological. It grows by reaching out into the future; in its development ends are always operative. Its development can be explained, certainly if the development is to be thought of as in any sense organic, only provided the forward-reaching feature of consciousness be explicitly recognized and emphasized. That we may explain the facts of experience, ends of some sort, either in the form of clear-cut and definitely defined purposes and aims or

[1] *Werke*, Bd. VIII, p. 33 (*Philosophy of Right*, Eng. Trans., p. 11).

in the form of tendencies which, though at the time unconscious, probably result ultimately from such purposes, must be seen to be working in and directing it. Apart from this kind of teleology there is no sense in saying that experience is a unity, or that it is an 'organic whole'; these words are meaningless when applied to an ateleological experience. This conclusion our previous consideration of the problem of duration has, presumably, established.

Accepting this conclusion then, we may now note the fact that the ends which thus control in experience are not static, but are changing; fluidity is one of their fundamental characteristics. Another fact to be noted is that they change according to law; there is some sort of unity and stability in the midst of the flux. And we notice, furthermore, that this transformation and the continuity within it are necessary. Each of these points demands further consideration.

So far as individual experience is concerned, its fluidity is fairly obvious. One need look no farther than one's own consciousness to discover an illustration of the fact that conscious experience consists largely in the acquisition and transformation of ends. The ideals of the child are quite different from those that are potent in the life of the youth; while those of the youth still are markedly different from those which the full-grown man entertains. Even when maturity is reached the transformation and change do not cease; they are more marked in some individuals than in others, but they are present in all to some degree. This is especially evident in the moral and religious consciousness; moral and religious problems are dealt with from ever new points of view, and these new points of view are only indications of the fact that the ideals which control and unify the individual's experience are changing ideals. In the individual there is fluidity, not only of the states of consciousness, but also of the underlying tendencies that dig the channel, so to speak, in which the stream of conscious experience flows.

In the evolution of conscious experience writ large in human history this same fluidity of ends is, if anything, even more clearly manifest. It is seen in the constantly changing scientific

theories, the varying national ideals, the shifting moral standards, and the continuously evolving religious creeds. In the realm of science, theory follows theory with such rapidity that those who are unacquainted with the fundamental nature of scientific method are inclined to feel that, perhaps, there is nothing certain after all; the history of science is a history of changing points of view. A nation, which, in one decade, may be aroused to the pitch of frenzied enthusiasm over the prospect of war with another nation, will, in the next decade, deprecate the thought of war and seek long and earnestly for a peaceful solution of international disputes. What one generation praises as the highest type of character the next looks upon as morally insignificant, or even as deserving condemnation. And in the history of religion what transformations have not taken place? Even the same religion, if it is growing, discloses ever new conceptions of God and God's relation to the human race; while among the various peoples who have made contributions to the religious consciousness of the world we find every possible type of religious faith. And all of these differences are only the outgrowths from the never-ceasing flow of the conscious experience of humanity, which entertains and can entertain nothing static. It is just through this fluidity of ideals that civilization advances.

But fluidity is only one side of the story. In order to make the picture complete, we must remember that in the midst of the flux there is constancy, in the midst of the transformation there is direction. Though it changes, consciousness never loses its way entirely. The individual experience may wander hither and thither in the wildernesses of its environment, and it may frequently stand puzzled concerning the way it should take; but the way that it does take finally is always the outgrowth of the previous experiences that have created for it its present controlling ideals. It may be driven by impulses, it may be compelled by habit, or it may be coaxed by the promise of a brighter and better future; but all of these controlling influences, in so far as they are truly parts of the individual's conscious experience, possess an ideal dimension and are elements within an organic whole that manifests a deep-living principle of which they are the

expression. Through all his changes, the individual is the individual still. And the same fact of continuity is evident in the consciousness of history. However great a diversity among ideals the history of humanity may disclose, still a thread of unity may be traced more or less clearly throughout the evolution. No scientific theory breaks with another so suddenly but that it can be seen to spring from the same root that nourished the other. From the lowest savage to the most highly civilized race of men, multitudinous though the ethical differences between them surely are, there is, nevertheless, to be found a golden thread which binds them together; for, after all, it is not the feeling of obligation to one's brother that has changed, but rather the answer to the question, Who is my brother?[1] In the last analysis, we must say that the ideals of human history are expressions of a common principle, and that, despite their diversity, they are in some sense one: in the midst of the multiplicity there is a unity, in the midst of the fluidity there is a continuity, in the cilivization of man.[2]

Thus, both in the individual and in the race, we find that conscious experience exhibits an evolution in which the controlling ideals are continuously changing. Whatever may be the nature of these ideals, or ends, whether they be what we call conscious purposes or what we call habits, whether again they be ends which on the whole make for progress or for retrogression, they are in any event subject to constant revision and transformation. But they do not change in a haphazard and lawless manner; through the changes continuity is more or less clearly discernible. There are no sudden breaks; order is present within the flux. So much we have already seen to be true; it now remains for us, in our discussion of this phase of the subject, to indicate briefly why this should be so.

The fact of change among ideals is sufficiently accounted for when we remember that the will itself, whence these ends ultimately arise, is subject to change. The will is essentially dynamic, its very nature is to evolve. To be a willing being is

[1] Green, *Prolegomena to Ethics*, sections 206 ff.

[2] See Perry, *The Moral Economy*, pp. 143–144.

necessary to a being that exists in time, and existence in time presupposes transformation and change. Now the ends that control in experience are, as we have argued above, outgrowths of the will—*the rationalized will*. Ends, therefore, must change; if their source is changing they surely cannot be static. Such is the nature of conscious experience, at least so far as we human beings have conscious experience, that development is a basic feature of it; to be conscious is to change. As Professor Baldwin says: "It is characteristic of the organization of psychic stuff as such to be progressive and selective; to have intentional meanings no less than accomplished meanings; to aim at something no less than to recognize something: and these are the characters of the sort of meaning we call ideal. It is progressively embodied, but never completed, in the meaning already fulfilled. It selects and intends a fuller realization than that already accomplished. It sets up ends for attainment which are definite only so far as they embody insight beyond the present fact."[1] Consciousness, in so far as it entertains ideal meanings, that is to say, in so far as it is voluntary, is just the progressive embodiment of those ideal meanings. And when it ceases to be progressive it ceases to be consciousness, both in the case of the individual and of society.

The unbroken continuity within this progressive embodiment of ends is due to what Wundt has happily termed the law of heterogony of ends.[2] The individual always wills more than he is conscious of; "the effects of the actions extend more or less widely beyond the original motives of volition." From these overflow effects an impetus is received which results in a transformation of the original motives; the action when done the second time is different from what it was at first, because the actual results of the first act have issued in a changed point of view. The new ends are instrumental in redefining the old ends, the new ideas emerge from the old ideas, and thus the course of future conscious experience is determined. The new is always an outgrowth of the old; the old is continuously expanding under the

[1] *Thought and Things*, Vol. I, pp. 236–237.

[2] *The Facts of the Moral Life*, pp. 329–331; *Outlines of Psychology*, English translation, 3d edition, pp. 374–375.

genial influence of the new. The old is, consequently, never merely old, nor is the new ever absolutely novel; rather is our experience a series of interacting ends, partly new and partly old, every stage of the series being "a necessary preparation for that which follows." Thus the development is a continuous one, which issues always in the new, which, though an advance on the old, is never just something different and unique. And if this is true of individual experience, it must hold equally of the social consciousness.

Our conclusion, then, is that the ends operative in conscious experience are changing, and that this change is necessary. Being constituted as we are, existing as we do within time, consciousness for us is essentially a flux and can entertain within itself nothing static. Even the ends that control conscious development are subject to transformation. But, on the other hand, the changes involved in consciousness are not without their law. End acts upon end, ideal upon ideal, in such a way that the new and the old are organically connected. Such seems to be the nature of human conscious experience.

But if this conclusion be true, then we must insist that it is simply contrary to fact to think of conscious experience either as growing toward a fixed end or as expanding blindly from an original impetus. The concrete evolution of individual and racial consciousness exemplifies a process that is neither a creative evolution as Bergson defines it, nor yet a mere reproduction of a plan or end that is changeless. It exemplifies rather what we shall designate as a *creative finalism*, which falls between these two extremes and in which the creation of ends proceeds *pari passu* with the process in which they continuously exert their directing and determining influence. As Hobhouse has well said: "Man does not stand outside his own growth and plan it. He becomes aware of its possibilities as he grows. . . . There is here, on the one hand, no distinction between the worker and the material. It is the material which does the work. On the other hand, the 'material' is not 'indifferent' to its destiny. It is out of human nature as it is that the conception of the ultimate purpose and destiny of man is evolved, and human nature being

what it is, this purpose must appeal to it in the end with compelling force."[1]

Shall we conclude, then, that reality itself is a process of creative finalism? If we make the assumption which Bergson urges us to make, namely, that conscious experience is a privileged case by an analysis of which we may discover the fundamental nature of real existence itself, we are forced to answer in the affirmative. For neither the radical finalism which Bergson criticizes nor the creative evolution which he insists upon would seem to hold of conscious experience as we know it; the development of consciousness is a wholly different process. It is a process which is thoroughly teleological, though not predictable; a process which pushes from within, but also follows the lead of its own ideals. Such is indisputably the nature of consciousness, if our preceding analysis of the facts is correct; and such we must conclude is the nature of real existence, if we are true to our original intention to infer the nature of real existence from the facts which the analysis of conscious experience discloses.

That this conception of reality is not wholly free from objections is obvious. There are difficulties involved in it which must be cleared away before the position can be regarded as established. And the common source of these difficulties is the absolute reality of time which the theory logically implies. In the first place, to think of reality as changing appears, on the face of it, absurd; such a theory would seem to involve the conclusion that the real is not yet, that it is to be ever something other than it at any moment is. And this (so the objection runs) reduces reality to a *progressus ad infinitum* which the intellect refuses to contemplate: it is simply inconceivable. Furthermore, a world that is continually changing is apparently a precarious sort of world so far as our ethical ideals are concerned. For is not such a reality merely the plaything of chance, and can it in any sense guarantee that the dearest interests of the human soul possess ultimate significance? Indeed, how can the future hold any hope, if the past, with all its intellectual and moral mistakes, is eternally fixed beyond recall? Such a notion, one is inclined

[1] *Mind in Evolution*, pp. 399–400.

to contend in Mr. Bradley's vigorous phrase, "is as abhorrent to our hearts as it should be false in our philosophy."[1]

Anything like an exhaustive discussion of such objections as these is, of course, made impossible here by the limits of space. And, so far as the main purpose of this paper is concerned, such a discussion might be omitted. The paper may be said to have attained its chief aim if it has succeeded in indicating to the reader wherein Bergson's definition of finality seems to be in error and in suggesting another view of teleology which appears to be more nearly in keeping with the facts of conscious experience than is the theory of creative evolution. However, since such objections strike at a vital point and since they imply a misinterpretation of the view of reality which this discussion is designed to support, they cannot be passed over without a word. But a general observation concerning them must suffice.

There need be no dispute concerning the inconceivability of an infinite progression. It is both unimaginable and unthinkable; the attempt to contemplate it exhausts, the effort is too tedious to be sustained. And to define the real as such an infinite progression is, as Hegel truly urges, to reduce it to 'a wretched neither-one-thing-nor-another.'[2] For if reality is just a bare succession of attitudes, so to speak, a string of disconnected events, then it is something truly indefinable; the notion is absurd. This we may admit at once. And we may admit, furthermore, that on the basis of this conception of reality our highest spiritual interests are not safeguarded. For such a progression is purely a matter of chance variation, and there is no semblance of a guarantee as to what direction it shall take in its further evolution. And, once more, the past in such a progression is irrevocably fixed; what has been *is eternal*, the realities of the various past moments are unchangeably what they are. It is true that, on this theory,

> The Moving Finger writes; and, having writ,
> Moves on: nor all thy Piety nor Wit
> Shall lure it back to cancel half a Line
> Nor all thy Tears wash out a word of it.

[1] *Essays on Truth and Reality*, p. 250, note.

[2] *Enc.*, section 94.

Even this we must admit. And no one would care to deny that such a theory with such dire consequences is 'abhorrent to our hearts.'

But all of these admissions have no bearing whatever upon the theory which the present paper would defend. It is true that these criticisms hold of the theory of creative evolution; this has been suggested in our previous discussion of the problem of duration. For creative evolution, as Bergson seems to define it, is nothing but an infinite progression without direction, an infinite series of adjustments to an impalpable environment which, if you once look closely at it, is nothing. And so the process is open to all the objections that may be raised against the conception of an infinite progression. But the view which I have ventured to call that of creative finalism is an altogether different conception and stands on an entirely different basis. It is a systematic evolution, and not an infinite progression. The process is essentially analogous to the development of conscious experience. And, as we have seen, consciousness grows from within outwards and is, at the same time, teleological in its development. Every present is the expression of both the past and the future: the directing and controlling ideals which are created *pari passu* in the process itself are organic outgrowths of the past, and in these ideals the past finds its constant re-definition and re-creation. The process is a unity, and the nature of the unity functions throughout.

Of such a theory of reality as this the objections against an infinite progression do not hold. For it is more than a mere string or succession of events: it is a system which operates in every stage of its growth. It may legitimately be said, therefore, that the real is fully expressed at any moment of time, although this expression must be conceived of as more than a mere *now*. In this sense reality is always attained, and is not that which merely is to be. Nor does this view imply that the past is dead and irrevocable, hanging like a weight upon the struggling present. Rather is it true that the past is ever operative in the present; it is vital there. What the moving finger writes is the moving finger itself; there is here no distinction between the agent and

the material. Neither can such a process be regarded as subject to blind chance. It advances according to the laws which it creates as it grows; and so its course is always determinate, though not predictable. And if the chief spiritual interests of the human race are expressions of the same principle whence emerge the laws of the growth of reality itself (and such is the assumption which the theory of creative finalism believes to be necessary), then these interests are not only safeguarded but also guaranteed lasting reality.

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REVIEWS OF BOOKS.

The Concept of Consciousness. By EDWIN B. HOLT. New York, The Macmillan Co., 1914.—pp. xiv, 343.

This volume, the author tells us, was written in 1908, and is now published, nearly six years later, without alteration. It appears, therefore, to be, in date of composition, the earliest American book devoted to the exposition and defence of the 'new' or monistic realism. The delay in its publication is to be regretted—unless, perhaps, by neo-realists of another *nuance*. For the volume throws a good deal of light upon some of the logical motives which helped to generate this now flourishing movement; it comes nearer than anything yet printed to giving us a 'system' of neo-realism; and its reasonings are assuredly of the highest significance, if they are sound. For they attempt not merely, like all expressions of radically monistic realism, to dissuade mankind from the use of certain ways of thinking to which it has long been habituated, but also to establish, in the place of these, an entire, new, connected scheme of fundamental categories for the interpretation of the nature of things, of consciousness, of the distinction between mental and physical, and of truth and error. The plain man is little likely to gain from these pages a conviction that he has been a neo-realist all his life without knowing it. Professor Holt seems, it is true, to imagine that he is presenting "a realism of perhaps a thoroughly naïve sort"; and he proclaims in his preface an intention of avoiding system-mongering, of "grounding philosophy in facts" and keeping "close to the mundane fabric." But such an announcement is a kind of thundering in the index which most philosophers nowadays appear to think necessary, but which the experienced reader has learned not to take too seriously. In reality, Mr. Holt's method is boldly dialectical—as dialectical as that of Hegel. And the conclusions to which it brings him have a much closer affinity to the realism of the Platonic dialogues than to the physical realism of the average man of science.

The volume contains, it is true, much that will be read with satisfaction by all dissenters from epistemological dualism, and propounds some arguments which will perhaps be welcomed by many who, without sharing the rest of Mr. Holt's philosophy, share his rage against the theory of representative ideas. To that theory the author

apparently finds it impossible to refer without falling either into a certain vehemence or else into a vein of sarcasm which, as an unconverted but by no means fanatical adherent of the hypothesis in question, I cannot profess always to find extremely mordant. The belief that there exist such things as ideas, which are the media of our knowledge about other existences, is after all an old and natural view, long held by many very respectable intelligences; though it has its undeniable difficulties, it has owed its currency to certain entirely definite and pertinent considerations, of which Mr. Holt betrays a better understanding than some other epistemological monists. I do not see, therefore, why the reasons for and against it should not be discussed in a tone of comparative calm.[1]

The book contains one argument—original, I think, with the author—which, in his eyes, makes the establishment of the general monistic thesis of the 'numerical identity of object and percept' a very simple matter indeed. The argument consists merely in the discovery of the meaning of identity. The concepts of representation, of similarity and of identity are regarded by the author as equivalent in their positive signification. Representation means similarity, and "similarity is partial identity" (p. 148). One object "represents another" by being, in some specified respect, "identical with the thing it represents." Thus a photograph, "in so far as it represents an object, is just so far identical with it. Likewise a sample of cloth represents the web in so far as it has the exact colour, texture and thickness as [*sic*] the rest of the web. If it has not these identical, it is not a fair sample or true representation" (p. 143). When the notions

[1] The implication of the dualistic theory which the author regards as most "monstrous" and "ridiculous" of all is not easily distinguishable from a view which he has himself expressed in his paper in *The New Realism*. In 1908 he writes with great contempt of the notion that "our firm old universe is a colourless, soundless, smell-less, tasteless and touchless desert of time, space, masses and energies: the colours, sounds, *etc.*, being secondary qualities sensed within our skulls" (p. 137). This supposition he finds to be a mere misinterpretation of the fact that the physical sciences happen to have limited themselves, for their special subject-matter, to the movements of masses in time and space. This realm, however, is no more "real" or more "objective" than "the original world which was all of this together with all of the secondary qualities" (p. 133). In 1912, however, Mr. Holt appears,—if I understand him,—to maintain that the differences of sensible qualities are *in fact* reducible to differences in the time-density of vibrations, and that, in so far as they do not present themselves as such, but as "distinct qualities in their own right," this is due to intra-corporeal factors. Yet the author's sarcasm at the expense of any view of this sort is permitted to stand in the earlier-written but later-published volume. The apparent inconsistency is probably due to a confusion in the author's thought to be noted subsequently in this review.

of identity and similarity are thus made interchangeable, the refutation of the hypothesis of representative ideas proves singularly easy; as the author remarks, "if anybody has ever assented to the representative theory of knowledge, it is only because he has not examined the concept of representation"—and at the end of his examination arrived at the author's definition. Accept that definition, and it must be plain that even a so-called 'mental representation' can not be a duplicate of an object but must be identical with it. "If a sensation or an idea represents anything else, whether this be an object or an absolute God's idea, it is so far identical therewith." True, our so-called ideas "are never completely identical with the objects." Hence it is that "we have become wedded to the phrase—my thought is *of* an object—when we ought to say and mean—my thought is a portion of the object—or better still,—a portion of the object is my thought:—exactly as a portion of the sky is the zenith" (p. 149). If our representations were adequate, the identity would extend to the whole of the object; thus "an adequate idea of a year would be a year long." It would seem to follow that even a semi-adequate one would be six months long. And would an adequate idea of the year 1908 exist six years ago—and a partially adequate one three years ago?

By means of the same conception, Mr. Holt refutes another current belief based upon dualistic presuppositions—*viz.*, that no person can experience another's pain or pleasure. Two persons, he observes (p. 109), can admittedly experience the same *kind* of pain, of the same intensity. Even so, the dualist is permitted to object, "it will still be a different pain, because experienced by different persons." The author replies that, at the moment, the persons can be differentiated only by differences in their experiences—*e. g.*, in their pains; but these pains, in the case supposed, cannot "be distinguished, psychologically or otherwise, from one another in so far as they are mere qualities." Hence we have no ground for the assertion that the two persons "experience different pains." (The author curiously neglects to draw the other, equally obvious inference from his premises, that the persons are to the same degree identical.)

It seems scarcely necessary to point out the confusion of ideas here. Similarity may, if one chooses, be defined as qualitative identity; but this concept is entirely distinct from that of numerical or existential identity. Two copies of Mr. Holt's book are as nearly alike as it was possible for his printer to make them; but if the printer had been a hundred times more successful in giving uniformity to his output,

the two volumes would not have come a whit nearer identity. But the author, apparently with no sense of jolt, passes from the partial qualitative identity of object and percept—which nobody, I suppose, denies—to the assertion of their numerical identity—which is the real point at issue; and thus by the baldest of paralogisms triumphantly refutes representationism on purely *a priori* grounds. This procedure is the more surprising because, elsewhere in the book—when the author is not engaged in overthrowing dualism—much emphasis is given to the contentions (*a*) that "a universal is capable of numberless repetitions" (p. 43)—*i. e.*, that the participation of particulars in a common essence in no wise makes of them identical existences; and (*b*) that position in a system is the real principle of individuation, and that the space and time systems are "the great individuators" (p. 44). It has, of course, been precisely the argument of the epistemological dualist that perceptual content can not, at least in all cases, be identical with the assumed real object, for the reason that it often does not exist at the same time, or in the same place, or in the same 'public' spatial system, or even in the same sense. But the dualist will have not the least reluctance in admitting the "identity" of content and object in the only sense in which Mr. Holt offers any evidence of that identity—namely, in the sense of partial resemblance. If "images" are *only* "as essentially identical with a certain portion of the concrete objects studied as the engineer's designs are with the concrete, particular ship or trestle that is constructed in accordance with them"—and it is to this that the author's 'monism' finally reduces (p. 271)—then it is a blessing, not a curse, upon dualism that Mr. Holt has pronounced. The doctrine of representative images could hardly be more unequivocally expressed.[1]

But the features of the book thus far mentioned are merely variations on the usual themes of epistemological monism; they do not make manifest the distinctive character of Mr. Holt's philosophy. That can perhaps best be brought out by noting the peculiar rôles played in his doctrine by three concepts, (1) that of "being," (2) that of "neutral entities," and (3) that of deduction.

1. It is in the pure notion of Being, Mr. Holt holds, that philosophy should find its starting-point; and it is this opinion which both furnishes the chief grounds, and determines the special coloring, of his realism. Like Hegel, he feels that, in the words of the *Smaller*

[1] The same rather amazing confusion between numerical and qualitative identity characterized also the author's contribution to *The New Realism*, and was pointed out by the present reviewer more than a year ago, in some comments on that volume (this REVIEW, XXII, p. 413).

Logic, "all doubts and admonitions which might be brought against beginning the science with abstract, empty being will disappear, if only we perceive what a beginning naturally implies." For 'being,' in the logician's or mathematician's sense, is "the one quite universal predicate" (p. 46), the "fundamental category" which "includes all entities and processes whatsoever" (p. 20). It has, in short, an infinite denotation; there is no negative class corresponding to it (*ib.*). Since it applies to every possible term and proposition—or at least, as the author seems to qualify, to every term that is not meaningless because self-contradictory, to all that is not mere "printer's ink"—it obviously can "connote nothing"; "nothing can be predicated of it," and consequently "nothing can be deduced from it" (p. 96). This notion must, of course, not be confused with such concepts as 'reality' (p. 49), or 'physical existence' (p. 65), or 'independent being' (p. 47), or 'truth' (p. 70). All these have definite connotation, and therefore limited denotation; their negatives also 'are.' The realm of logical being, for example, contains the unreal as well as the real, the content of false as well as that of true propositions. Even the subjects of propositions which negate being—propositions which would seem to be logically possible—must be held to 'be' (p. 67). Similarly, of course, 'being' is to be ascribed to both sides of a contradiction (p. 69).

Unlike Parmenides, Mr. Holt, though he begins with 'being,' does not end with it; he professes to derive from this seemingly barren abstraction various philosophical consequences of moment. One of the easiest and most obvious of these, he finds, is a refutation of idealism. This follows in two ways, of which the first is of a delightful simplicity. The idealistic thesis, "All that is, is mind or idea," cannot possibly be true—so the author argues—for the evident reason that 'mind' and 'idea' are terms having more connotation, and therefore less denotation, than the term 'being.' The predicate of the idealist's thesis has determinate import, and it is therefore incapable of application to all "entities"; for the only predicate which permits such universal application is the one which has no meaning! "The fabric of idealism is reared upon a set of pseudo-fundamentals. The simple entities of logic are more fundamental than the pseudo-simples of idealism, and logic offers a more thoroughgoing analysis of the world of experience than does idealism" (p. 23). "In short, subjective idealism is a false doctrine because mind is really something, and hence everything it cannot be" (p. 97). This triumph of dialectic the author is unwearied in repeating (*e. g.*, pp. 20, 78, 82, 94, 102).

He also, however, intimates another disproof of idealism, equally based upon the notion of 'being.' The new symbolic logic, we are told, "has cast by no means a favorable light upon idealism"; for it has shown "that logic is not the science of 'correct thinking' merely, but that it is a science of what *is*," that, in the words of Mr. Russell, "the object of a thought, even when this object does not exist, has a Being which is in no way dependent upon its being an object of thought" (p. 3). In short, every proposition "implies the being of its terms" (pp. 64–67).

In reading the first of these arguments, it is hard to repress a suspicion that the author is playing a practical joke upon a section of the philosophical public, is presenting a clever caricature of the abuses of the dialectical method. Quite apart from the logical peculiarities of the argument, it is, surely, not easy to take seriously discussions relating to a term which confessedly "has no connotation"—which, in short, means nothing at all,—of which "nothing can be predicated" and "from which nothing can be deduced." None of the flights into the inane imputed to the Schoolmen seem to me quite equal to this. But it is perhaps the duty of a reviewer to assume that even this reasoning is soberly meant, and to point out explicitly what seem to him the fallacies in it. The reviewer is, in that case, confronted with an embarrassment of choice. One might, for example, note that the logical sum of this objection to idealism amounts precisely to this: that the idealist has asserted a significant proposition, that he attributes to all reality a predicate which has some concrete meaning. Since no idealists, I suspect, have ever meant to do otherwise, they, at least, will not find the charge a hard one to bear. But the most pertinent remark to be made upon the author's argument here is that it is, at best, irrelevant. Granting Mr. Holt full freedom to make what use he will of his concept of 'being,' the whole issue between any significant form of realism and of idealism lies on the hither side of that abstraction. It is with the questions of 'reality,' of the 'physical existence' of all sensible content, of the 'truth' of certain propositions, of the 'independent being' of certain concrete entities, that the controversy is concerned. Not only are these, as the author himself insists, different questions from that of 'logical being'; they are also questions with respect to which nothing can be inferred from the fact that everything that we can in any way refer to may be said to have such logical being—*i. e.*, to be, at least, something that can be referred to.

The second of the refutations of idealism mentioned seems to in-

volve an ambiguity. In so far as the 'being' of terms, which recent logic is said to have found implied in all propositions, is merely 'being' in the sense—or absence of sense—already considered, the remarks made upon the former argument apply also to the second. But the author seems often to mean something more definite when, in this connection, he ascribes being to the entities which symbolic logic investigates. He means, namely, that those entities have a certain stubbornness and recalcitrancy. A term in a given system has relations to other terms which the logician does not create, but merely discovers. "Mathematics has always dealt with something that clearly is more than the mathematician's mere thought, with something, that is, which either is so or not, and is inexorably the one or the other" (p. 3). "The seemingly more pliant entities of logic and mathematics offer the same inexorable resistance to any merely subjective familiarities as do the concrete masses and forces of the physicist." "We build to ourselves a number system by the 'merely subjective act of counting,' as some one has impiously said; but we discover that that number system is infinitely more than we had ever desired or imagined" (p. 119). Here clearly, then, 'being' means inflexibility towards any "subjective familiarities," the property by which conceptual relations and logical laws are independent of the wish or intent of any individual mind. 'Being,' in this sense, it should be noted, can no more be a "universal predicate" than can the idealist's "consciousness," according to the implications of the author's reasoning already mentioned. For inflexibility is a term of positive connotation; and over against it we can always distinguish, in our universe of discourse, things that are, or might be, not inflexible. If, in fact, one chose to follow the example of Mr. Holt's dialectical method, one might argue thus: The difference between things objective and things subjective is here identified by the author with the difference between things that are, and things that are not, independent of our design or desire. But, since 'independence,' in this sense, is not the "universal predicate," a class of entities which are *not* so independent must be said to 'be.' *Ergo*, 'subjective' as well as 'objective' entities *are*—and dualism is thus once more vindicated!

However, this second argument, when 'being' is taken in the second, more definite, sense, is one of the recognized bases of that logical realism which Mr. Holt shares with a number of contemporary philosophers. It seems to me, none the less, highly unsuccessful as a refutation of idealism—a doctrine for which, in the epistemological sense of the term, I hold no brief. The argument is, in fact, identical

in principle with Dr. Johnson's celebrated refutation of Berkeley: "Sir, I refute him thus!" said he, kicking the stone by the roadside. Even Mr. Holt seems to see in this, what it has always been recognized as being, merely an amusing illustration of the great critic's philosophical *naïveté*. Since the idealist did not deny that physical masses, as contents of experience, are "inexorable," and did not mean by their being "in the mind" either their conformity to human desires or the predictability of their behavior, you did no harm to his doctrine by pointing out that they are in fact inexorable, and often disagreeable and unforeseeable. You do just as little harm to it by pointing out that logical entities have analogous properties. What the idealist has maintained is merely that all real existences 'are' in a certain, particular manner, that they occur exclusively in a certain context or type of relation. Even the most extreme neo-Kantian, in his talk about the mind's 'creating' the categories and logical laws, never seriously means more than that it 'finds them' *in itself*, and sees them to be logically grounded in its own nature.

2. Whatever it be for things to have 'being,' the things that are, are upon final analysis, Mr. Holt finds, to be described as "neutral entities." One could have wished for a more formal and precise definition of a term to which the author seeks to give so prominent a place in the philosophical vocabulary. The reader will experience some difficulty in piecing together the elements of a definition offered in various places in the volume. Certain expressions used, for example, would seem to indicate that "neutral entity" and "being," in its first and most abstract sense, are synonyms. For we are told that the adjective "neutral" has "the royal sinecure of universal predicate" (p. 114). But there can not, according to the author's reasoning, and in the sense specified, be two universal predicates. And therefore "neutral" and "being" should be merely different printer's ink for the same concept. Yet with this interpretation other passages conflict. For example, the author is at pains to offer an extended proof that matter is really a neutral entity. But no proof can be needed that matter has "being." The latter predicate is by hypothesis applicable to all things that can be mentioned (though not to these only!); its definition, so far as it can be said to have any, consists merely in the universality of its denotation. It is self-evident, then, that it must be applicable to any particular entity or class of entities. Again, we are told that anything is sufficiently proved to be "neutral" if it is "common to us all, as are leagues and fathoms, day and night" (p. 110). But if Mr. Holt

affirms "common to us all" as a "universal predicate," he is once more doing what he so often reproaches the idealist for doing; he is applying to the entire realm of logical being a predicate which has a concrete connotation, and an abstractly conceivable or mentionable negative class of entities over against it—that of beings "not common to all." In short, if neutrality is something, everything it cannot be.

It appears, in fact, impossible to reconcile all the things that are said about neutral entities. There remains, however, a residuum of somewhat significant and coherent statements respecting them. When these are put together, the result is a metaphysical theory which, as I have intimated, may best be described as a species of Platonic realism, worked out in a new way and with some highly original details. Neutral entities are "such stuff as logical and mathematical manifolds are made of" (p. 114); they consist of terms and propositions, but not in any psychological or subjectivistic sense of those expressions. The author has, as he says, learned from Professor Royce the truth of "the conceptual nature of the universe," but "this verity" to him "argues not for idealism but for realism" (p. xiii). Neutral entities, therefore, are neither mental nor physical; it is this consideration, apparently, which explains the name given them. On the other hand, minds and "ideas," and likewise matter, are merely specific complexes of such entities. The author thus reaches a sort of metaphysical monism—a doctrine of "one [kind of] substance, of which mind and matter are two aspects,"—which seems to him to accord well with his professedly monistic epistemology. In point of fact, as it is worked out, it involves a negation of epistemological monism, though the fact is obscured by the pervasive confusion of correspondence with numerical identity. Cognition is, as men have commonly held, a case of correspondence; but it is not a correspondence between "ideas" and "things-in-themselves," but "between two neutral manifolds" which possess a "complete identity of substance" (p. 126). But since "identicals can be, and are, repeated" the neutral manifold commonly called an idea is apparently *not* regarded by the author as *numerically* one with the neutral manifold commonly called the object of that idea; it is a "repetition" of it. In the epistemological sense, this is an obviously dualistic view.

In its bearing upon physical science, the theory of neutral entities means that, even upon such a question as the ultimate constitution of matter, the last word must be said by the mathematical logician, not by the physical chemist. When the biologist has analyzed organisms into the chemical compounds of which they are made up, and the

ordinary chemist has analyzed these down to their elemental atoms, and the physical chemist has resolved these "into minuter components (motions, masses, electrons)," it still remains for logic to analyze these last, still relatively complex, units into simpler and ever simpler neutral entities. And in this passage from physical to logical analysis, from the division of masses to the resolution of connotations, the author seems to perceive no breach of continuity. At bottom, it would appear, matter is of an atomic constitution, but its atoms are not spatial indivisibles but logical simples, quiddities floating in the void; their concourse, by which a world is generated, consists in their uniting to form propositions.

At this point the author is confronted by an old and obvious difficulty: How *can* logical simples, without loss of their simplicity, unite in a diversity of relations? Must not any conceptual realism of this sort end, as in Herbart's case, in a reduction of all the concrete relations of things to *zufällige Ansichten* and a denial of the reality of change? Much of Mr. Holt's reply to this difficulty (pp. 25–30) seems to me to wander off into kindred but not strictly relevant issues. But for the adequate discussion of the point, not to say, of the entire metaphysical theory of neutral entities, more space would be requisite than this review can properly claim. I must therefore limit myself here to mere exposition.

3. There remains to be noted, however, a large further contention. The neutral entities are not only related, but are in all probability, Mr. Holt believes, linked together as are the members of a deductive sequence, the more complex being deductively derived from the more simple; and since it is these entities that make up the universe, "all being is a single infinite, deductive system" (p. 164). And by deduction is meant "the logical necessity with which consequences follow from premises" (p. 12), though such necessity, it is maintained, may be as truly exemplified in the deduction of *novel* consequences, not "given" in the premises, as in the barren circularity of the syllogism. Here, manifestly, the neo-realistic world appears with a highly Spinozistic coloring—which some other new realists, no doubt, will regard as not properly belonging to it. The author himself puts this third thesis forward, not as "perfectly assured," as the two former are, but as something which "as our knowledge advances we have more and more reason to believe." The justification of this belief seems, however, to be an important part of his programme; the principal purpose of the book is, in fact, said to be "to give a deductive account of consciousness" (p. 166).

Unfortunately for the fulfilment of this purpose, the author's conception of deduction, when brought to the application, proves to be extremely fluctuating and equivocal. So far as consciousness is concerned, the "deductive account" of it that is offered consists chiefly, not in a deduction but in a reduction—an attempted proof that minds and their contents, including volitions, are composed of neutral entities. You do not deduce water with "logical necessity" from hydrogen and oxygen by showing it to result from the union of those two elements; nor is Mr. Holt's book deducible from the alphabet, though its words are all built up out of the 'entities' of that system. It is true, however, that some attempt is also made to work out an actual deductive order of entities, and to assign to 'consciousness' its place therein. But this turns out to be nothing more than a tentative arrangement of concepts in the order of their relative complexity. Manifestly, *if* the (connotatively) simpler and "more universal" entities are "more fundamental," and deductively necessitate the more complex, then to find the place of consciousness in "the hierarchy of simple-to-complex," *is* to deduce it from that more fundamental than itself. But what one requires is either a proof of the major premise, that if, of two 'entities,' one is logically simpler than the other, the latter—both as to its essence and its existence—is deducible from the former, or else an exhibition, in each particular instance, of a logical necessity linking together the successive members of the hierarchy, a deductive following of one *from*—and not merely after—another. But what is required is nowhere given. The nearest approach to it is, I believe, the following, which may be quoted as a favorable example of the author's "deductive" procedure:

"Then come the innumerable algebras—rather elaborated cases of order. About here, in the simple-to-complex series of neutral entities must appear the so-called 'secondary qualities,' more properly the qualities. This may seem very much forced, but that will be purely by reason of the traditional Locke-Cartesian psychology. I have tried to erase the *tabulae* in order that we may consider each and every entity for what it just logically *is:* and if we do this we see at once that *aside from their actual brute qualities* the colours, sounds, odours, *etc.*, have none but purely ordinal qualities. The colours, if we will examine them without prejudice, are not intrinsically even extended: but they are merely a rather simple ordinal system of several dimensions. The concept of intensity here appears. Next comes geometry" (p. 155; italics mine).

The mathematician, I can't but think, will learn with some surprise

that geometry is deduced from the concept of intensity; nor are we vouchsafed any hint as to how it is done. But with respect to the deduction of the sensible qualities from the class of entities next before them in the series, some explanation, it will be observed, is given. The immediately antecedent entities are types of order; and colors, *etc.*, *are* nothing but specific ordinal systems—if you disregard "their actual brute qualities." In other words, if you leave out of account the essential differentia of the later member of your pair of concepts, the part of its meaning that is unique, you will, surprisingly enough, discover that what remains is *not* essentially different from the prior member. Thus it is that "there is no break in the series" and the deductive unity of all being is exemplified.

This facility in deductive prestidigitation appears to be made possible by the fact that the author is not really clear as to what ought to be the logical relation between successive members of a series of the sort that he is attempting to exhibit. For the most part he speaks of deduction as meaning the definition of the later entities "in terms of" the earlier and simpler and more "universal" ones. But this hardly seems sufficient for his purpose. For, in the first place, it does not give us—what the scheme appears to require—any actual logical necessity of the existence of the later entities or of their occurrence in any concrete system or universe. Triangles are defined in terms of lines and angles; it does not follow that in any system in which lines and angles occur, triangles *must* occur. *Mere* definition works backward; but the "deduction" which the author seems to crave is supposed to work forward. In the second place, the properties of a logically complex thing are not identical with those of the entities in terms of which it is defined. A triangle has properties not predicable of lines or angles; a regiment has properties which do not belong to the soldiers composing it. And the properties of the more complex thing are not *necessarily* deducible from the properties of the things mentioned in its definition—unless definition be confused with exhaustive description. It is perfectly conceivable that the complex will have both qualities and methods of action which can be ascertained only empirically and could never be deduced by a logical scrutiny of its *essentialia*. Once more, then, to define A in terms of B is not to "deduce" A, and all that distinguishes it, *from* B. In the third place, the world appears to be full of a number of "brute qualities," not truly definable in terms of anything else whatever. This might, from Mr. Holt's point of view, mean only that the number of logical simples is considerable, and includes such things as the

sensible qualities, as well as the more fundamental notions of mathematics and logic. But he is not content with this. If the world were such a large, promiscuous array of simples, it would lose that hierarchical order in which he delights, and would, as a whole, not at all present the character of a "deductive system." Mr. Holt therefore feels obliged to "deduce the qualities"; we have seen an example of the process. But in the present volume he never finds it quite possible to deny that, in the case of qualities, we do encounter "entities that do not seem to consist of the simpler entities that are more fundamental" (pp. 161–2). Since they are "deduced," all the same, it is evident that here deduction can *not* consist in definition of the thing deduced "in terms of simpler neutral entities present in the more fundamental parts of the complexity series."

It is true that Mr. Holt conjectures that "we may yet learn that qualities can be defined in terms of entities that are not qualities"; and it is probable that his paper in *The New Realism* was designed to give fulfilment to this hope. There too, however, as I have previously shown, there remains at the end of the reduction-process a small residuum of mere "brute quality" in the sensible attributes of physical things—a residuum which is acknowledged, and yet, as in the example which we have here seen, is conveniently disregarded in the final summing-up of the results.

It would be easy to exhibit many more impossibilities in the author's conception of a universe generating itself by a process of deduction of the complex from the simple. For a single further example: upon Mr. Holt's own showing this process could certainly never have got started. For manifestly the *Urgrossvater* of all the family of neutral entities should be none other than the concept of 'being,' which is of maximum simplicity and absolute universality. But from "this *fundamentum ultimum* nothing can be deduced" (p. 96). The family tree ascends to an ancestor who, when reached, is set down as childless.[1] But to heap up further illustrations of such contradictions would be an unprofitable use of space. Apart from its deductive pretensions, Mr. Holt's account of "consciousness" is of the usual neo-realistic type, now sufficiently familiar, which has been abundantly discussed on other occasions by the present reviewer.

[1] To speak strictly, all of the earlier ancestors must have been without issue. For Mr. Holt tells us that no terms—as distinguished from propositions—are logically "active," or generative of other terms by deduction. Yet most of his attempted deductions seem to be from one *concept* to another. And in this he is consistent with at least one of his principles; for propositions manifestly are not logical simples.

I have thought it necessary to devote the greater part of this review to pointing out some of the more fundamental of the confusions and inconsistencies which appear to me to pervade the author's reasonings. It ought to be said, however, that conceptual realism is one of the natural types of metaphysical hypothesis, but one which in modern philosophy has been a good deal less exploited than a number of others intrinsically no more promising. Mr. Holt, therefore, has done an interesting thing in giving us an unusually elaborate and ambitious example of the type. He has carried out his programme —as the foregoing has perhaps made evident—with an unusual degree of originality and metaphysical inventiveness, of boldness in speculative construction, and of resourcefulness in the devising of arguments in support of the positions taken. The book is written, also, in an uncommonly crisp, incisive and nervous style, which at times recalls that of Mr. Bradley. It is a pity, however, that so good a writer should so frequently speak of "hypothecating" a fact or a principle; extreme though his belief in the objectivity of logical entities is, it can hardly go so far as to imply that they are also negotiable securities.

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Benedetto Croce: La Filosofia di Giambattista Vico. Bari, Laterza e Figli, 1911.—pp. ix, 316.

The Philosophy of Giambattista Vico. By BENEDETTO CROCE. Translated by R. G. COLLINGWOOD. New York, The Macmillan Co., 1913.—pp. xii, 317.

Patriotism has led Italians to devote a great deal of attention to Vico; and the diverse schools of Italian thought, positivists, Hegelians, and adherents of the national Italian school, all claim Vico as their own, indulging in consequent controversies as to the proper way of interpreting him. Vico readily lends himself to such controversies because his was essentially an autodidactic, eclectic and unsystematic mind, so that everyone may pick out what he likes and interpret the rest to suit himself. (That this is not an unfounded statement, everyone can verify by reading Vico's catalogue of what his New Science is.)[1] Croce's book, however, is delightfully free from controversy and that philologic straining to produce the appearance of consistency which makes so many works on Vico, as on Kant, resemble in method the old-fashioned text books of gospel harmony. Instead of an apology, or, what is now so fashionable, an attempt at an 'objective' historical account of his author's thought, Croce boldly starts out to

[1] *Scienza Nuova* (2d ed.), Book II, Ch. II, § 2.

give us a philosophical evaluation, *i. e.*, an exposition of Vico that should distinguish between the true and the false.

Croce characterizes his attitude to Vico as that of a warm lover but not a blind one (pp. 42–43). Opposed to those who grow enthusiastic and write defences, "some minds are self-willed and suspicious, quick to mark any trifling contradiction, merciless in demanding proof of every statement, and indefatigable in wielding the forceps of dilemma to dismember an unfortunate great man" (p. 42). But such dismemberment generally proves vain. The insight or spirit of the great man remains significant. If we had to choose between these two attitudes of faith and distrust, it would be better to prefer the former which "may yet enrich us by one or two aspects of the truth," while the attitude of distrust leaves us without any gain in insight. But the proper attitude, the critical one, is neither of these. It interprets freely but not fancifully, not ignoring the letter but transcending it to attain the spirit.

Croce's method, of course, involves setting up the critic's own standpoint as the test of truth. But can the 'objective' historian really dodge the responsibility for a philosophic standpoint of his own from which to judge the philosophic importance of the propositions he examines? If the critic's own philosophy acts as a disturbing medium, this can be determined only by establishing a better medium, not by supposing that a philosophy can be viewed without the medium of the interpreter's own ideas.

From Croce's point of view (a modified Hegelian pantheism), the truth of Vico's system is the idealistic pantheism which worked itself out in Vico's mind in spite of the latter's devotion to Catholic theism. The great service of Vico is, thus, to have seen history and the institutions of culture as revelations of the eternal forms of the human mind—though this vision was obscured and confused by his determination to be and remain an orthodox Catholic. Hence Croce's exposition is a continuous effort to separate the grain from the dross, without any effort to hide the dross.

Croce's exposition, like Vico's own books, is singularly devoid of the sense for system which is often supposed to be the very essence of philosophy. Students brought up on the classical division of philosophical problems into logical, metaphysical, psychological, etc., may well object that Croce draws no clear line between philosophy and the empirical material, like Greek and Roman history, theories of mythology, etc., which occupies more than half of the book. This is not an altogether trivial point, for if we press Croce along this line

we come to real obscurity in his fundamental views concerning the relation of the empirical to the *a priori* or eternal, which, he often assures us, is the only object of philosophy. What, for instance, are the eternal forms of mind which underly the historical process? The clearest answer to this is in the statement of the philosophic significance of Vico's law of 'reflux': "The mind after traversing its course of progress, after rising from sensation successively to the imaginative and the rational universal and from violence to equity, is bound in conformity with its eternal nature to re-traverse the course, relapse into violence and sensation, and thence to renew its upward movement, to commence a reflux" (p. 122). But nowhere, in this book, does Croce tell us whether sensation and the imaginative and the rational universals, are three categories of empirical psychology or ontologic stages of a mind or World Process? He rejects Vico's assertion that the types of culture represented in the different stages of Greek and Roman civilization must forever repeat themselves, "even if infinite worlds were produced from time to time through eternity." Croce sees no necessity why those empirical facts should repeat themselves; but why must the passage from violence to equity, or from sensation to the rational universal, forever repeat itself? The absence of an adequate discussion of the metaphysics which must underly the New Science, and of any criterion by which to distinguish the empirical from the 'eternal' in history, leaves this whole matter essentially obscure.

Croce insists that Vico's great *forte* is his speculative insight and that the basic principle of this insight is to be found in his theory of knowledge, viz. in the principle that we can truly know only that which we have created. This peculiar adaptation of the traditional maxim that philosophy consists of the knowledge of the causes of things, Croce regards as the fundamental principle of all modern idealistic systems and of all true philosophy, and Vico's originality in formulating and adopting this principle is defended with considerable ardor. The consequences drawn from this are: That the social world, being the creation of man, is best known, that physics, dealing with matter not created by man, must always be beyond his demonstrative knowledge (though he may have opinions rising to certitude), and that mathematical knowledge, while demonstrative, is futile because it does not create reality. It does not occur to Croce that these consequences might be regarded as the very reductio ad absurdum of the principle which he thinks so important. It would seem hardly necessary at this date to defend the existence of a genuine science of

physics, or the assertion that our physics is at least as developed as our social science; but even the conclusion with regard to mathematics, though occasionally heard to this day, is demonstrably false, as the slightest familiarity with the progress of physics in the works of Archimedes, Galileo, Huygens, or Newton will amply illustrate. That Vico should have believed so, is readily understood when we remember that he was a professor of rhetoric and poetry, that, according to his own Autobiography,[1] his knowledge of geometry did not extend beyond Euclid's pons asinorum, and that he would not read any works on experimental physics because such works can have no bearing on philosophy and are written in such barbarous style. But that anyone should follow him to-day when the mathematical ideas of Maxwell and Willard Gibbs have transformed our modern physics, seems to me incomprehensible.

The truth seems to be that the effort to magnify the importance of Vico by representing him as a precursor of Croce's own speculative metaphysics, does not do Vico as much justice as do some of the more positivistic interpretations, *e. g.*, Cosentini's. When one reads the *Scienza Nuova* nowadays, and even in Croce's own estimation, what makes Vico's theory of human culture so significant is that in an age of mechanical theories of life, when language, mythology, religion, and political institutions were treated as inventions due to clever men or to a deus ex machina, Vico approached all these problems from what is now called the organic point of view, *i. e.*, viewed social institutions as growths rather than as inventions or creations, and in an age of mechanical individualism (typified by the social contract theory), he approached the problems of civilization from the point of view of a social psychology that allowed room for divergences of modes of feeling and thought undreamed of by his contemporaries. (It may be remarked, in passing, that the concept of the social organism in positivistic literature is precisely that of Vico's Providence, which makes the social world "the issue of an intelligence which often diverges, is sometimes contrary, and always superior to the particular ends which men set themselves.")[2] It is well to note that when Vico comes to formulate his own criterion of truth he does not use the principle of the convertability of the true and the created, but rather the older principle of Catholic authority: "Whatever the whole or a plurality of mankind feel to be just should serve as a rule of social action."[3] In accordance with this criterion, the belief in Providence, in the sanctity of human

[1] See *Oeuvres choisies* tr. Michelet, I, pp. 15–16, 23–24.

[2] *Scienza Nuova*, Book V, Ch. IV.

[3] *Ib.*, Book I, Ch. IV.

marriage, and reverence for the dead are found to be universal and made the basis of his teaching. This is not a detached statement or episode, but as the sub-title of the *Nuova Scienza* indicates, the whole motive of the work as an effort to found a system of jurisprudence on the common beliefs and nature of man. It is only Croce's indifference to the philosophy of law, due to his peculiar metaphysic, that makes him minimize this phase of Vico's thought.

Croce draws a very sharp line between the history of philosophy and the history of human culture. Philosophic ideas have no continuous existence like brute things, but come into life whenever they are re-thought in their fullness by a kindred spirit (which may be very seldom). Hence the history of philosophy is unnecessary in the exposition of a single philosopher. But "in spite of the antipathy which we [Croce] ourselves admittedly feel," the attempt is made to trace in the last chapter and in the second appendix, the resemblance and analogies between Vico and later thought. According to the accepted canons of historical research it would seem that in order to establish the historical importance of a philosopher it is necessary to show, (1) that subsequent philosophers were acquainted with his works, and (2) that such acquaintance was a decisive influence in their thought. From this point of view it would seem that Vico was rather an interesting eddy in European thought, without influence on the main current. For in spite of the great attention devoted to him by Italians and by a few European historians like Michelet, Croce's own evidence shows that Vico's writings remained almost unknown in the eighteenth century, and none of the great philosophers of the nineteenth century seem to have been influenced by them. Nevertheless, Croce will not allow us to say that the work of Vico was historically insignificant. "Such language is blasphemy against history which allows nothing to be useless, and is always and throughout, the work of Providence" (p. 268). To support this, we are treated to a long list of rather superficial or far-fetched resemblances between Vico's thought and that of many of the subsequent great philosophical systems. Typical of these is the analogy between Vico and "the *a priori* synthesis of Kant which reconciles the real and the ideal, experience and the categories" (p. 238), as well as the attempt to assimilate Vico's views on the struggle between the Roman patricians and plebians, to the Marxian conception of the class-struggle based on the economic interpretation of history. Curiously enough Croce fails to note the resemblance between Vico and those who were closest to him outside of Italy, viz., the representatives of

the German historical school of jurisprudence. But though Savigny, Puchta, *et al.* share his view of the 'organic' nature of law, they do not seem to have been either directly or indirectly influenced by him.

The same lack of regard for ordinary historical perspective characterizes the special appendix added to the English translation, on the sources of Vico's theory of knowledge. Thus Croce fails to consider the influence of St. Augustine on Vico. This is remarkable not only because of the external resemblances between Vico's 'eternal republic' and the City of God, but because Vico's teacher Ricci was an Augustinian, and Vico's autobiography and juristic works are full of acknowledgments of his debt to the great Bishop.[1]

All attempts to picture Vico as a fore-runner of the nineteenth century are apt to miss the real significance of Vico for our own day. It is true that he was far ahead of eighteenth century mechanical theories of culture, but only because he was behind seventeenth century physics (see his puerile speculations on magnetism in his autobiography).[2] Vico was really a belated Humanist of the type of Pico del Mirandola. But in his opposition to the spirit of the Aufklärung he caught vague glimpses of how this very rationalism or scientific spirit might be used to transform and elevate humanistic studies. This transformation Vico could not, because of his unsystematic and unscientific training, himself bring about. But his writing, like that of all genuinely contemplative minds that brood on conceptions, are full of suggestions that startle us by their modernity, *e. g.*, his remarks on the fixed and the flux in law making. The crudities and absurdities which fill his pages are significant of the lack of discipline which typified the humanism of the Renaissance. The great service which the scientific movement that Vico opposed is rendering to real humanism is this very spirit of discipline, of rigorous self-control in the presence of intellectual temptation, which science is slowly bringing into our study of human life.

It is a pleasure to add that Mr. Collingwood's translation is of uniform excellence, and that a translation by him of Vico's own works would be much more useful than of any exposition. Of the latter we have plenty.

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[1] *Opera Latina* (Ferrari), II, pp. 11, 19, 22, etc.

[2] *Oeuvres choisies*, I, pp. 54–55.

Die Grundurteile der Philosophen: Eine Ergänzung Zur Geschichte der Philosophie. Von Otto Freih. v. d. Pfordten. Erste Hälfte. Griechenland. Heidelberg, Carl Winter, 1913.—pp. vi, 321.

Professor v. d. Pfordten, continuing the series of works which he has already published on the philosophy of values, has now arrived at the point of tracing the function of values in the historical development of theories. This is a very promising subject, but whether the execution of the plan fulfils the promise is a point on which readers are likely to differ. Historians of philosophy have inclined latterly toward a new standpoint. Not content with recording the teachings of the great philosophers, or not seeing any likelihood of improving upon the existing records, the historian has ventured upon more intimate methods of exposition. We have been asked to revise the ancient philosophers and recognize in them the movements of great impulses which have been obscured by centuries of barren intellectualism: we have been asked to go behind the veil of words and enter the inner sanctuary of each philosopher's life, the place of intuitions and artistic creation. In reality this development has achieved little novelty and little reformation. The method may be applied to customs and to institutions with commendable success, for they are dumb witnesses to which we must lend a voice: they are symbols in a sense in which we cannot call a theory a symbol. Taken as symbols, customs and institutions may be interpreted through the underlying values, as the historian of culture or the sociologist aims to exhibit the system of values which controlled the phenomena of any given period. The idea of values (as our author reminds us) has been gaining ground ever since Lotze's day. The particular task which the author has undertaken in this book is to apply the general conception of values to the history of philosophy and so bring into relief the "Grundurteile." To this proceeding there seem to be two fundamental objections which we may as well state at once. First, if it is assumed that the values in question were not consciously present to the writer's mind in each case, we are launched upon the most difficult and speculative undertaking imaginable; to determine, *e. g.*, the factors which operated in the mind of Parmenides, unknown to himself, may well be regarded as a hopeless undertaking. We hasten to say that, in spite of his statement that the values discussed in this book were not consciously grasped by those who expressed them, our author has not attempted this formidable task. The second objection is therefore more relevant. For if the way of psychologism is abandoned, the values and the philosophy lapse into identity: the state-

ment of the fundamental values then becomes a mere statement of the philosophy as such in its most important aspects. The author has seen this point: he has a vague misgiving that a particular 'ism,' Platonism for example, is simply the ordinary way of summing up the values of a particular system. In brief, we do not believe that there is any real distinction between a philosophy and a system of values: consequently to state the values dominating a philosopher's system is to state his philosophy: one cannot pretend to discover the foundations of foundations to infinity.

It is clear then that we have to take the title of this book very literally and free our minds from any expectations which may have been aroused by the use of the word values. If we expect no more than the fundamental parts of each philosopher's *Weltanschauung*, no more in fact than a supplement to the standard histories of philosophy, we shall not suffer disappointment. As the reader progresses the meagerness of the programme will certainly strike him more and more forcibly. It is not, in the present state of affairs, any very great achievement to discover that the Pre-Socratics were objective and cosmological in their standpoint, or that Plato was mainly ethical in his analysis of life and thought. To these unimportant and over-developed themes the writer adds a number of polemical comments which will interest the student; but the book as a whole requires considerable knowledge of the subject in order to make the finer points intelligible, and at the same time supplies so much of the commonplace as to weary anyone familiar with the literature of the subject under survey. A closer consideration of the book will illustrate this defect as well as the redeeming features.

A beginning is made with the Indian philosophies. As religious values are excluded from the scope of the book there is little to be said: the distinction of two worlds is presented as the fundamental point and its significance for idealism from the Vedanta to Hegel is noted. We cannot agree that there is anything comic in the Indian idea of scientific knowledge for anyone who understands either the philosophy which was not science or the science (hardly to be ignored as here) which the early Indian civilization comprised.

From India we are taken, somewhat *per saltum*, to the early Greek philosophers, and traverse the familiar ground of Ionian speculation where the specific values are the nature-forms or objective aspects of Nature. The essential feature of this period is said to be its inner movement from impression to concept, from immediate contact with things to metaphysical construction. The process, in detail, goes

from substance (Thales) to motion (Heraclitus), thence to action (Sophists) and so to systematic reconstruction of the naïve world of impressions. Democritus is very rightly treated as the anticlimax of this movement, the point, that is to say, at which the explanation of the visible (sensible) world was achieved by invisible (conceptual) factors. The notes to this part give the author's objections to those modernized versions of Ionic speculation which helped to make Gomperz popular. Democritus, we learn, laid too much stress on the mechanical values and so became distressingly materialistic; yet the point is well made that the "Necessity" of Democritus was mainly a negative concept, a denial of causelessness rather than a denial of spontaneity.

The idea of practice (conduct) develops in the era of the Sophists, matures in individualism, and flowers finally in the Socratic valuation of personality. This is very true, but the exposition is rather superficial, especially in its neglect of any genetic connection between Pythagorean and Socratic teachings: such finer points as the relation between the Pythagorean "fire," the Democritean atom, and the Socratic-Platonic teaching of the indestructible (atomic) soul, seem not to interest our author, though they illustrate better than anything else his dictum that the values and not the materials of thought change from epoch to epoch. Against this defect may be set the very superior treatment of the Cynics and Cyrenaics who are discussed as a typical antithesis of values. This is perhaps the first point at which the question of value becomes truly significant, and the author's theory here attains a good field for development. We find here no adequate treatment of the real form of the Cyrenaic argument, but some compensation is offered in the comparison of ancient and modern valuations of 'nature' in the phrases 'follow nature' or 'return to nature.'

We pass to the section on Plato and find ourselves again in a region of mixed platitudes and polemics. Something has to be said on the order of the dialogues, necessarily too brief, and then we are shown in what sense the doctrine of ideas is essentially ethical in aim and character. Next to the ethical trend of Plato's thought comes the aesthetic factor. In discussing this aspect the author enters a protest against the usual description of Plato's writing as dramatic. He may be right as against those who use the word loosely and think that any dialogue is dramatic. It is true that a mere exposition of views, by different people who "sit, lie or stand and converse with one another" is not necessarily drama. But this overlooks the fact that most

people never call such dialogues dramatic while the truly dramatic parts in Plato, such as the opening of the Republic, are distinguished more by their deep dramatic irony than by the mere dialogue form. Also, what is here said about the myths of Plato would be improved by a study of Professor Stewart's well-known book on that subject. Incidentally notice may be taken of the fact that the author seems to know no books on Greek philosophy that are not German. The supremacy of aesthetic values is not to be either asserted or denied in Plato, partly because the good and the beautiful are too closely connected to be forced into that antithesis, partly because the ethical character of the content and the aesthetical character of the form have no opposition that would require either subordination or supremacy. In some cases, as is noted on p. 203, ethical valuations did affect Plato's utterances, notably in respect to his psychology: but that is another question which does not trench upon the relation of aesthetic and ethical interests. The discussion of Plato's valuation of mathematics is more successful, and the last paragraph, where the hypothesis is treated as a judgment of value, is also good, though, in expression at least, it ignores the fact that Plato expressly places the highest judgment of value higher than the sphere of hypothesis.

The section on Aristotle is mainly concerned with the value of his achievements, special emphasis being laid on his observation of facts. Aristotle is presented as combining the Platonic theory with the Asclepiad tendency toward accumulation of data. Facts, methods, and final causes seem to be the foundation of Aristotle's work. Much that is both interesting and good is said on these points, though one detail of comparison is not accurate. In the middle ages, we are told, Plato was valued for speculation, Aristotle for facts. But this has to be modified if we remember that from Augustine to Bonaventura and on to Pascal, Plato was not the fountain head of speculation but of inner as opposed to outer experience. The introspective inwardness of Plato was more important both for later scholasticism and for the Renaissance than any so-called Platonic metaphysics. After Aristotle our author seems to think that there was only a decline of power. This may be true, though we should like to add that the real predominance of values, however inadequate, seems to begin at this stage. The sections on Scepticism are well written and Carneades in particular is very justly estimated. Epicurus illustrates the valuation of freedom as against the Stoics and the identity of freedom with self-determination is rightly deduced (though with insufficient quotation of proofs) from the Epicurean atomism. The Stoics are described

as valuing primarily character; on the whole a satisfactory description, granted the author's definition of character. Neoplatonism is treated in seven pages with too little insight, and "therewith Greek philosophy ends in the religion from which it began."

Our survey of this book has been rapid and so perhaps not fully adequate. It is difficult to do justice to a book which has many interesting details but combines and confuses two very different topics, namely the valuation of Greek thought and the values which dominated that thought. Want of distinction between these two lines of treatment produces a wavering between exposition, criticism, and polemics. We may at the end be grateful that we are treated generously to all three and the review of the subject thus afforded is certainly, as the author describes it, a complement to a history of philosophy. The next part will, we assume, do the same for mediaeval and modern philosophy and should be still more interesting. We regret to say that there are an inexcusable number of typographical errors in this part and that the printing of Greek words and quotations is much below the level of what we expect in books from Germany.

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NOTICES OF NEW BOOKS.

Einführung in die Ethik. Von Dr. G. HEYMANS. Leipzig, Johann Ambrosius Barth, 1914.—pp. vii, 319.

Within certain well-defined limits this is an excellent book. It is simply yet comprehensively planned, clearly written in a direct and pleasing style, and full of pertinent illustration. It would make a useful text-book. And as a critic of existing theories the writer is ingenious and penetrating. But his positive contribution to ethical theory is disappointing, and to English readers his mode of approaching the subject will seem somewhat archaic. To him the distinction between utilitarianism and intuitionism is the last word in ethics, and Sidgwick and Martineau are his representative writers; Green, curiously enough, has not yet appeared above the horizon. And in general the conventional categories of a former time, both of psychology and of ethics, are simply taken for granted.

But, in fact, the book as a whole is built upon a convention. On the side of construction the aim is to sketch the outlines of a science of ethics with the natural sciences as a model. This model determines, more clearly than the writer seems to realize, not only his approach to the subject, but, in the end, his formulation of the ethical principle. At the outset he insists that the point of view of ethics must be empirical. Therefore, it must have facts; facts that are finally distinct and hard, internally unrelated, and incapable of further analysis. These are to be found in our moral judgments, which are accordingly claimed to be unique and to be wholly unrelated to intellectual judgments on the one side and to æsthetic judgments on the other. Thus he cuts the Gordian knot of the relation between virtue and knowledge by an unquestioning assertion of the common view that there is an absolute difference between an injury done with malicious intent and an injury due to defect of judgment—this as a fact of moral consciousness. Evidently he has forgotten our unqualified condemnation of the man who 'didn't know it was loaded.' And if he had paused to reflect he might have asked whether as a matter of *fact* (leaving aside abstract ethical theory and melodramatic fiction) we ever meet with cases of malice unadulterated by some illusion of justification, or how often we meet with cases of injury due to ignorance which a sensitive conscience is content to regard as absolutely excusable.

In view of his insistence upon the empirical standpoint we should expect to find Professor Heymans on the side of the hedonists and the associationists. But the opposite is true. As between the utilitarians and the intuitionists, he is an intuitionist; and the best feature of the book is his thorough-going criticism—from the same empirical standpoint—of Sidgwick's argument to show that both the moral rules and the recognized exceptions are determined

by the principle of utility. And as between inner character and outer act he holds that the object of moral judgment is character, which, however, he holds to be strictly determinate and determined. It is a little difficult to appreciate the 'scientific' character of a view which includes our moral intuitions under the category of empirical facts. On the other hand, his scientific model is, after all, not precisely empirical. His ideal of science would be represented by mechanics rather than biology; and the mathematical sciences are, as he notes, based not only upon facts, but also upon certain self-evident axioms. Some, at least, of the moral judgments are of the nature of axioms. For instance, there is an axiom of justice, which must be done, if not though the heavens fall, at least at the expense of a considerable diminution of the general happiness.

The chiefly interesting feature of the book, however, is the writer's formulation of the ethical principle. As I have just noted, he rejects the utilitarian principle of the greatest happiness. Passing in review the several intuitional formulations, Kant's duty for duty's sake, Shaftesbury's æsthetic harmony, and Wollaston's regard for truth, he rejects them all as more or less unsatisfactory in favor of what he calls the theory of objectivity. Precisely how objectivity may be defined as different from Kant's category of duty, is not made very clear. To grasp the concrete point of the formulation we must take the matter into our own hands and turn again to the scientific model. The most distinctive claim of modern science, we must remember, is to have arrived at a view of the world which is wholly and finally disentangled from any human or personal point of view. Well, this is Heymans's 'objectivity.' The ideal of the science of ethics, like that of the natural sciences, is to formulate a theory of goodness which shall be absolutely impersonal; uncolored by any reflection from the point of view of the ethical scientist. Similarly, the ideal of virtue for the individual is absolutely to abstract from the demands of his own personality; not, indeed, to leave himself out, but to regard himself as simply one detail in an objective situation—to forget that he is himself. The measure of his virtue is then the comprehensiveness of the situation which his view covers. In other words, in the language of Stumpf, his view is to be "sachlich," a view which considers the situation itself rather than his own interest in it.

Those who have read the *Methods of Ethics* will remember, what Professor Heymans seems to have forgotten, that this is, so far, precisely the principle of Sidgwick, who follows Kant in holding, as a sort of moral axiom, that one's own good is not more important than that of any other. The theory of Heymans differs from that of Sidgwick only in rejecting the hedonistic principle as a basis for measuring the several elements of the objective situation. How the conflicting elements are to be practically adjusted, we are not clearly told. The principle of objectivity has no reference to any special content, and all that we know is that no individual, or no moment of one's life, is to count *as such* for more than another. This impersonal principle he carries so far as to deny that we have any special obligations towards

kindred or friends or that any special obligation is imposed by gratitude. Yet it does not mean that "everybody is to count for one." On the contrary, each is to count according to his moral worth, that is (we infer), according to the objectivity of his point of view. The impersonal principle reaches the climax in its interpretation of the virtue of chastity. Supposing, we are told, that all utilitarian inconveniences were set aside, a society composed exclusively of Don Juans and courtesans would still be immoral—because such a society would be lacking in personal loyalties? No; because it would involve a disrespect for the sexual relation.

Such an anti-climax, it seems to me, is the doom of any ethical theory that undertakes, after the fashion of natural science, to treat human conduct impersonally. For my own part, I believe that a similar paradox is hidden in the conception of an impersonal science. But in ethics the paradox is more patent. One need only ask how the sexual relation could even be formulated by one who had strictly abstracted from his own impulse of sex. Yet not more in ethics than in natural science is the demand for 'objectivity' meaningless. What is meant, I should say, is, not that our point of view should be impersonal, but that it should be comprehensively personal; not that no person should count for more than another, but rather that no *person* should be sacrificed for another, that every genuine and well-considered personal ideal should be treated as absolutely important. Such an objectivity will require, not an abstraction from the demands of self, but quite the reverse. When I am tempted to suppose that life cannot be so significant for my neighbor as it is for me—and therefore to put myself first—or, say, that his children cannot possibly be so interesting as mine, then I am bidden to ask whether from the more or less hidden recesses of his own personal outlook his life may not present as full a significance as mine offers me and whether as parent he is not in a better position to estimate the personal qualities of his seemingly uninteresting offspring. Here the essence of objectivity is not impersonality, but sympathy. But the sympathetic appreciation of another self will be merely a faint sentimentality if the self in me is not imperative and intense.

How these personal ends are to be adjusted without sacrifice is a supremely difficult problem. Yet the problem is not theoretically insoluble. And it seems to me that, if we admit that moral problems are personal, this is the problem that we have to face, while if we deny that they are personal we are left with no values whatsoever. An impersonally objective ethics faces the absurdity (*e. g.*) of cultivating for its own abstract sake a chastity which concerns nobody under the sun.

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A New Conception of Relativity and Locke. (University of Cincinnati Studies.) By HENRY G. HARTMANN. Published by the University of Cincinnati, Cincinnati, 1914.—pp. 96.

The title of this monograph is hardly fortunate and the author's brief introduction is not calculated to dispel one's first impression that novelty,

rather than thoroughness of treatment, is what is aimed at. The assumption that the principle of relativity "has never been subjected to a critical examination" (p. 5) is not reassuring, and the implied belief that the key to Locke's meaning is to be found in Book III of the *Essay* is perhaps even less so. The 'traditional' interpretation of Locke against which Dr. Hartmann contends apparently is that Locke is always primarily a sensationalist in his constructive work, and that the other tendencies of his thought are to be dismissed as mere 'inconsistencies.' It may well be doubted if the 'traditional' interpretation of Locke, assuming that there is one, is as one-sided as this; but one begins to understand the author's point of view when he says: "The whole matter hinges upon the rôle of the simple ideas. Are they at bottom to be taken as working assumptions or as actual facts?" (p. 7). This is a real problem, probably recognized as such by many careful students of Locke at the present time, and the degree of emphasis given to this question is bound to influence any attempt to define Locke's true position in the development of modern philosophy. The merit of the present monograph lies in the careful analysis of the various assumptions, explicit and implicit, of the philosopher, together with the methods, often plainly conflicting, employed by him in the course of the argument of the *Essay*.

Dr. Hartmann has not undertaken a historical study; his method throughout is that of logical analysis, and Locke's *Essay* has been treated much as if it were a contemporary work. There are certain advantages in such a method, as well as certain obvious disadvantages. On the one hand, the reader's attention is kept focused upon certain fundamental logical issues; on the other hand, there is a temptation to carry ingenious analysis too far, and, in particular, to employ an up-to-date terminology that is partly misleading as applied to a work published two and a quarter centuries ago. The fact that such a method of treatment does not lend itself to connected exposition does not particularly matter, as the author is writing only for technical students of philosophy, who may be assumed to be familiar with the text of the *Essay* and with the various interpretations of its significance that have been seriously considered.

It is difficult to indicate the gist of Dr. Hartmann's elaborate treatment, which is intended to be constructive as well as critical, but perhaps the following will indicate the general trend of his argument. Locke's simple ideas would at first appear to be non-relative, mere factual particulars, the relations of which must necessarily be wholly external and factitious. But if nothing exists except such particulars, all knowledge is irrelevant. In truth, fact can never be wholly divorced from meaning. Even particular 'things,' when at all exactly determined, are in part the 'workmanship of the mind,' —in other words, 'constructs' within some sphere of relevance. Moreover, "*no single situation of actual existence can reveal or exhaust an object's total actuality*, that is, all its possible phases or qualities" (p. 17). Locke's argument tends to show that "reality in the last analysis is determined in ideas, formed under the control of ends or purposes within a world of relatively

determined needs. . . . This is at once relativistic, positivistic, pragmatic, and constructive" (p. 18). As regards the 'simple' ideas, with which we seemed to start, these are gradually found to be complex, derived, and conditioned. Otherwise expressed, "they become increasingly regarded as working assumptions and less and less as established facts" (p. 22). As regards 'complex' ideas, not only are substances (so far as knowable) and relations (taken in any definite sense) 'constructs,' but the same really applies to 'modes' as well (p. 74). And yet none of these are more arbitrary than the purposes which determine their spheres of relevance, and these may be as significant as you please for the interpretation of experience.

The author's own position, which is more or less involved throughout, seems to be a sort of compromise between idealism and pragmatism. It might perhaps be described as instrumental idealism, recognizing the reality of change and actual novelty in the world process, with strong but not unambiguous emphasis upon individuality in terms of the self. It is equally opposed to sensationalism, any form of realism which insists upon the externality of relations, and absolute idealism. In the opinion of the reviewer, Dr. Hartmann not infrequently reads too much into Locke—not merely too much of more modern philosophy, but too much of his individual point of view—but he is right in attempting to differentiate Locke's constructive method, however imperfectly worked out, from the essentially destructive method of Hume.

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The Great Society. A Psychological Analysis. By GRAHAM WALLAS. New York, The Macmillan Company, 1914.—pp. xii, 383.

Those who have profited by this author's well-known *Human Nature in Politics* will welcome this volume, which is also written "with the purpose of bringing the knowledge which has been accumulated by psychologists into touch with the practical problems of present civilized life." By the "Great Society" is meant the organization of society in our time, transformed as it has become, in the extent and in the interdependence of its members, as a consequence of the industrial revolution. After outlining his main psychological positions, Professor Wallas considers in separate chapters the significance for the Great Society of habit, fear, pleasure-pain, crowd psychology, love and hatred, and the thought processes. While the importance of each of these is found to have been exaggerated by a different school of social philosophers, all, except perhaps fear, are to some extent practically desirable as agencies of social control.

The "crowd psychologists"—Bagehot, Tarde, Le Bon, and Ross—as well as McDougall, come in for particular criticism. It is shown that 'imitation,' 'suggestion' and 'sympathy' are loose descriptive phrases and lack scientific precision. In opposition to McDougall it is contended that the various thought processes are equally innate with the instincts, and in no way depen-

dent upon them either for their origin or for stimulation. Except for these differences, however, Wallas would probably admit that his general conception of "dispositions" owes much to McDougall's doctrine of instincts. This book makes it evident that those hasty readers of *Human Nature and Politics* who classified Wallas with the crowd psychologists were in error, and that he is in no sense an anti-intellectualist. On the contrary, Wallas maintains that thought is the mental process of most value for the Great Society, and the two longest chapters in the book are devoted to a consideration of the social value of each form of thought—memory, imagination and reasoning—and of the question through what forms of social organization and procedure thought can best be carried on. In this connection various British governing bodies—town and borough councils, cabinets, and houses of Parliament—as well as the American Congress, are discussed. The concluding two chapters respectively consider through what social organizations the Great Society can best achieve its will, and how best secure the happiness of its members. In this connection private property, socialism, syndicalism, and the feministic movement all come in for critical appreciation.

It is impossible in an outline to do justice to the richness and suggestiveness of a writer like Professor Wallas, whose service in great measure consists in his rich store of illustrations drawn from wide administrative experience and acquaintance with men in our generation. He presents the empirical significance of each theory and point of view as it actually works out in public life most concretely and convincingly.

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From Locke to Montessori. A Critical Account of the Montessori Point of View. By WILLIAM BOYD. New York, Henry Holt and Company, 1914.—pp. 271.

In the introductory chapter, after mentioning the wide popularity of Madam Montessori's educational theories, the author expresses the belief that it is necessary to examine the postulates of her theory before subscribing to it. "Especially," he says, "we must know whether we are in substantial agreement with the general view of life taken by Dr. Montessori before subscribing to her educational principles" (p. 17). It is refreshing to find an author with the courage to pass beyond the stereotyped phrases of a popular educational plan to an examination of its philosophy of life. Many pages have been written about Montessori in which the reader is never led to suspect that there are any philosophical conceptions underlying the *ipse dixit* rules of her program. Many of her most enthusiastic followers have apparently been satisfied to repeat her profession that she has no preconceived notion of the nature of education. This is a curious case of self-deception; for even if it were not evident upon general principles that educational theories are built upon philosophical conceptions he who runs may read that Madam Montessori, notwithstanding her sincere protest, has a very definite philosophy of life back of her rules of education. The author further increases our confidence

in his leadership when he continues in the introduction: "Any effective criticism of Montessori and her methods must therefore in the long run direct itself to her fundamental ideas. For this reason, there is much to be gained by making the first approach to her system indirectly through a study of its ancestry in the world of ideas" (p. 17).

The book is divided into two parts. Part I deals with the historical background of Montessori's theory. Beginning with Locke, the author treats briefly Condillac, Pereira, Rousseau, Itard, Seguin, and Montessori. This historical part of the book probably determined the main title, although the reader must feel that the author's interest was primarily in Part II, which is a critical exposition of Montessori's theory. Part I is entirely subordinate to Part II and, as might be expected, does not give a full account of the educational theories of the persons mentioned. The biographical data is well chosen for the general reader although it is too limited to be of service to students of education. One purpose of this part of the book is admirably furthered. That purpose is to prepare the reader for the author's point of view in criticizing Montessori's philosophy.

In Part II the author resolves Madam Montessori's philosophy into three main ideas which, when they are stated, are quite easily found in the historical outline that preceded. He states these ideas as follows: "The first is the principle of individuality: that each person manifests in a unique way the mysterious life-force, and attains to the most complete realization of his own possibilities by following the direction given by his individual impulses. The second, which is in some sense deducible from the first, is the principle of freedom: that the individual in maturing his powers and becoming adapted to social life through education develops best in the absence of conventional restrictions on his individuality. The third is the psychological doctrine which makes the senses the basis of the higher life of man and requires their cultivation in early childhood as the precondition of complete success in later education" (p. 183). He rightly points out the fact that these theories "are all adumbrated in Locke" and "are explicitly enunciated by Rousseau."

The criticism of the three principles which follows is clear and convincing in style, although based on no arguments that are essentially new. In reality the conceptions which he examines are much older than Locke, and the arguments against them are at least as old as the dialogues of Plato. Chapter IX, *Individuality*, is especially worth reading. It leads to the conclusion that "Dr. Montessori's discussion of individuality is vitiated by her failure to realize that human individuality is a social not a biological fact" (p. 211). The remaining chapters—*Freedom*, *The Education of the Senses*, *The Omission of the Humanistic Subjects*, and *The Children's House*—are based upon the conclusion of Chapter IX.

The book is well written and valuable. It is welcome, especially in a field where clear thinking has too often been out of favor and where philosophy has been abused. It should be of great service to the college student or

teacher who is endeavoring to keep his balance amid the confusion of present-day educational theory.

H. G. TOWNSEND.

SMITH COLLEGE.

Ursache und Bedingung: Widerlegung des Konditionalismus und Aufbau der Kausalitätslehre auf der Mechanik. By GUSTAVE HEIM. Leipzig, J. A. Barth, 1913.—pp. 62.

The author's prime endeavor is to show, in opposition to Verworn and von Hansemann, a distinction between the cause and the conditions of an event; this naturally involves as a secondary aim, some definition of the causal relation. Herr Heim first demonstrates by examples that not all the conditions of a given result are of equal value, though all may be equally necessary. Some contribute the positive amount of work that is done, others determine the mode in which this work is accomplished. In fact, a typical case of causation, drawn from mechanics, may be exhaustively analyzed into the factor that performs work, and the factors that by their resistance fix the character of the effect. The former agent is the cause, the latter are the conditions in the proper sense. In the motion of the billiard-ball, the stroke of the arm is the cause, the elasticity of the ball and cushions, the friction of the cloth, the temperature, etc., are the conditions. "Ursache ist eine Sache welche Arbeit leistet" (p. 25) and "Bedingungen sind (ausser der Ursache) Dinge, auf welche Arbeit geleistet wird (bearbeitete Dinge)" (p. 26). Further characteristics of causality are: (1) a cause may be a thing, person, state, or process (p. 28 and pp. 53 ff.), (2) the cause is not equal to the effect, but to the effect multiplied by a constant, and therefore is proportional to the effect (pp. 44 ff.), (3) many causes often combine to produce one effect (pp. 57 ff.). On several points one feels the need of further discussion—especially on the alleged personal causation; and the idealistic view of Lotze and Bosanquet should be explicitly discussed in the criticism of Verworn's thesis. Such imperfections, are, to be sure, almost unavoidable in so short a treatise. In spite of brevity, the clearness and relevancy of the author's thought, the concreteness of his method, are striking, and lead us to desire a more extended monograph from him on this subject.

W. H. SHELDON.

DARTMOUTH COLLEGE.

Premiers Éléments de Pédagogie Expérimentale: Les Bases. Par J. J. VAN BIERVLEIT. Gand, I. Vanderpoorten, Paris, Félix Alcan, 1911.—pp. xii, 335.

This volume is part of a general work on experimental psychology and education the purpose and occasion of which are best described in the words of the author (introductory note): "Invité par M. le Ministre des Sciences et des Arts, et M. le Directeur Général de l'Enseignement primaire, à initier le personnel des Écoles normales et MM. les Inspecteurs de l'Enseignement primaire aux données de la Psychologie et de la Pédagogie expérimentales, je me suis

attaché à n'exposer que les conclusions certaines de ces sciences. Dans une première série de 14 Conférences, j'ai établi les bases de la Pédagogie expérimentale; dans la seconde série (21 Conférences réparties sur 3 années) je montrerai les déductions innombrables que l'on peut tirer de ses données fondamentales."

The author is professor of experimental psychology in the University of Ghent, and the work here described is introduced to the French public in a preface by Gabriel Compayré, Inspector General of Public Instruction. The work includes an Introduction, in which the author sets forth his general views on education, and describes his purpose in the work. The first three chapters discuss the methods of scientific psychology. There follows a chapter on the nervous system, four chapters on sensation, one on imagination and attention, one on intellectual fatigue and overwork, two on memory, and a concluding chapter on conscious measurements.

The book adopts a rather wholesome attitude with regard to the present status of educational theory and practice, and assumes in the work of the school a progressive development which in many instances has shown admirable results. Indeed, the higher mentality of the popular classes of the present day shows that the primary school has not failed in its mission. But modern school systems are still far from perfect; on the contrary, "master and pupil, ignorant and learned, show by their speech and by their action that the school, as it exists at present, is much inferior to what it ought to be" (p. 2). On account of its thorough methods of psychological analysis the present work ought to contribute something toward a more complete understanding of the requirements of educational theory and thereby to a fuller realization of the purposes of the school.

E. JORDAN.

BUTLER COLLEGE.

Le Problème Pedagogique. Par JULES DUBOIS. Paris, Félix Alcan, 1911.—pp. viii, 538.

This work is, as its sub-title announces, an essay upon the status of the pedagogical problem and an attempt at a solution of the problem. It is addressed (preface) to teachers, and especially to those of the author's pupils who expect to take up the career of teacher. The purpose of the book is, in the words of the author, "amener quelques-uns de ceux qui se destinent à la carrière de l' enseignement à la conviction qu'ils ont à résoudre un problème d'une importance et d'une gravité exceptionnelles; essayer de determiner quels sont les éléments généraux de ce problème et quelle est la valeur relative de chacum d'eux; indiquer dans quelles directions peut se faire la recherche des solutions; en un mot, non pas apporter des principes et des conseils qui dispenseraient du travail individuel de recherche, mais au contraire inviter à ce travail, exposer comme une méthode de pensée et d'investigation personnelles . . ." (pp. 5–6).

The body of the work is divided into three parts. The first part contains three chapters, the first of which discusses thirteen 'pedagogical types.' The second describes half a dozen tendencies in contemporary pedagogy, and the third attempts a critical analysis of the pedagogical problem. The second part, with the general title "La recherche des solutions," contains two chapters, one devoted to an examination of essential questions, and the other to the discussion of the positions occupied by science and philosophy with regard to the pedagogical problem. The third part carries the title "Solutions personnelles." "Nous y indiquerons comment nous cherchons pour notre part la solution du problème pédagogique, quel principe nous adoptons, pourquoi ce principe plutôt qu'un autre, quelles déductions enfin nous croyons pouvoir en tirer" (p. 10). The two chapters here described represent an unusually serious attempt to understand educational theory in its relations to other thought interests, and it is an agreeable surprise to find in a work on education a discussion of topics like "Pédagogie, morale et métaphysique" (p. 388), "L'idéal spirituel" (p. 439), and to find the task of the educator seriously regarded as a work of personal culture and personal influence.

E. JORDAN.

BUTLER COLLEGE.

The following books also have been received:

Feeblemindedness. By HENRY H. GODDARD. New York, The Macmillan Company, 1914.—pp. xiv, 599. $4.00.

Philosophy: What is It? By F. B. JEVONS. New York, G. P. Putnam's Sons, 1914.—pp. iv, 172. $1.00.

The Theory of Relativity. By L. SILBERSTEIN. London, Macmillan and Company, 1914.—pp. vi, 295. $2.50.

The Man of Genius. By HERMANN TÜRCK. London, Adam and Charles Black, 1914.—pp. 483.

The Theory of Beauty. By E. F. CARRITT. New York, The Macmillan Company, 1914.—pp. 299. $2.00.

What Can I Know? By GEORGE T. LADD. New York, Longmans, Green, and Company, 1914.—pp. vi, 311. $1.50.

The God Who Found Himself. By ALFRED WARD SMITH. Boston, Sherman, French and Company, 1914.—pp. 176. $1.25.

Milton and Jakob Boehme. By MARGARET L. BAILEY. New York, Oxford University Press, 1914.—pp. 200.

Art in Education and Life. By HENRY DAVIES. Columbus, Ohio, R. G. Adams and Company, 1914.—pp. xii, 334.

Experiments. By PHILIP E. EDELMAN. Minneapolis, Philip E. Edelman 1914.—pp. 256. $1.50.

Behavior. An Introduction to Comparative Psychology. By JOHN B. WATSON. New York, Henry Holt and Company, 1914.—pp. xii, 439.

Benedicti de Spinoza Opera. Edited by J. VAN VLOTEN and J. P. N. LAND. The Hague, Martinus Nijhoff, 1914.—4 vols., pp. x, 273, 331, 247, viii, 249.

Kants Weltanschauung. Von RICHARD KRONER. Tübingen, J. C. B. Mohr, 1914.—pp. 91. M. 2.50.

Ein neu aufgefundenes Kollegheft nach Kants Vorlesung über physische Geographie. Von ERICH ADICKES. Tübingen, J. C. B. Mohr, 1913.—pp. v, 89. M. 2.40.

Lettres Inédites de John Locke. Publiées avec une introduction par M. HENRY OLLION et DR. T. J. DE BOER. La Haye, Martinus Nijhoff, 1912.—pp. x, 258.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Fs.* = *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. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

Heredity. WILLIAM BATESON. Science, Nos. 1026 and 1027 (Aug. 28 and Sept. 4, 1914).

The first of these papers was delivered at Melbourne, and the second at Sydney, while together they constitute the address of the President of the British Association for the Advancement of Science. The author first gives a statement of the essence of the discoveries made by the Mendelian or analytic methods of study, and afterwards considers the deductions from these physiological facts both as to general evolutionary theory, and as to the special case of human society.

Analytical breeding proves that the characters of offspring are determined according to the distribution of genetic factors. It seems more likely that these factors result from some phenomenon of arrangement than that they are literally material particles. This method of study has made clear that individuals are assemblages of primary factors, and also that no organism can pass on to its offspring a factor which it did not itself receive in fertilization. The experimental study of variation and heredity has not merely opened a new field; it has given a new point of view and new standards of criticism. We are left with a picture of variation entirely different from that which was formerly accepted. It is impossible to hold that large differences can arise by accumulation of small differences. Variation is a definite physiological fact and varieties stand in a regular descending order, and are simply terms in a series of combinations of factors separately transmitted, of which each may be absent or present. There is no evidence that variation may occur through the *addition* of positive factors to the original stock. If, then, we have to dispense with any addition from without, we have to ask if it is altogether unreasonable to represent the course of evolution as an unpacking of an original complex which contained within itself the whole range of diversity that living things present. We have to ask whether variation may not arise by loss and fractiona-

tion of factors, and the course of evolution accordingly proceed from the complex to the simple, instead of in the opposite direction as has commonly been assumed. This is not the time for general evolutionary theory; but it may be said that, though we must hold to the evolution of species, there is little evidence to show how it has come about, and no clear proof that the process is continuing at the present time.

When we come to apply these ideas to man, we may say that "the potentialities and aptitudes, physical as well as mental, sex, colors, power of work or invention, liability to diseases, possible duration of life, and the other features by which the members of a mixed population differ from each other," are determined from the moment of fertilization, and that these qualities are in the main distributed on a factorial system. Even if the Mendelian system is not adequate to express the descent of human faculty, it is yet certain that characters are distributed among human population according to some scheme which differs from this only in degree of complexity. This cannot fail to influence profoundly our view of life and of ethics. The time is not far distant when both individuals and communities will begin to think in terms of biological fact. From this point of view the author makes some remarks on the preservation of the unfit and the hopelessly diseased, on the limits of eugenics, and on the increase of population, etc. He holds that thus 'nature' is overwhelmingly more important than 'nurture,' and declares that it is faith and not evidence which leads educationists and economists to have so much hope in the ameliorating conditions of life. In all practical schemes for social reform the congenital diversity and essential polymorphism of all civilized communities should be recognized as a fundamental fact, and efforts should be directed to facilitate and rectify class-distinctions rather than to abolish them. Students of political science are constantly confronted with problems that require biological knowledge for their solution, especially in questions of education, criminal law, and all branches of policy and administration that involve the physiological capacities of mankind.

J. E. C.

L'activité chimique du cerveau. E. BOHN. Rev. Phil., XXXIX, 6, pp. 557–580.

Materialists have erred egregiously in over-simplifying their method of dealing with the brain. They have limited their considerations chiefly to mass and form, which comparative anatomy shows to have no very definite connection with quality of intelligence in different species of animals, races of men, or individuals. The essential concept for true mechanistic explanation is not matter but energy; and yet the energy relations and changes of psychic processes have been strangely neglected. As the energy of living beings is principally chemical, it is of the greatest significance for psychology to know something of the chemical activities of the brain and nervous system. The subject is a difficult one to study, but a number of experiments have yielded significant results. Robertson has shown that continued excitation of nervous

matter develops acidity in it. This and similar discoveries throw light on the law governing the speed of reactions and of nervous sensibility under prolonged stimulus. The symmetrical curve of many changes, analogous to the curve of autocatalytic reactions in chemistry, is thus explained. The rising portion of the curve is due to the sensitizing action of the chemical products of the first part of the reaction, the descending portion to tissue exhaustion. Still more remarkable results in the biochemical field are the wonderful effects of the secretions, infinitesimal in quantity, of certain ductless glands, the most notable case being that of the thyroid body. Multitudes of such chemical secretions are becoming known, whose presence in the circulation profoundly affects on the one hand the character of consciousness and on the other the activity—even the form and growth—of various organs. It seems to be largely through the medium of these glandular secretions that the interaction of psychical and physical processes and states is effected. Of especial significance are the psychic relations of the reproductive glands, which may shed much light on the vexed question of the inheritance of acquired characters, as well as on the problems of sex psychology. Immunity from disease, many deformities and abnormalities, and probably the fundamental facts of the life and growth of organic structures, find their explanation in the chemical effects of such glandular products or "hormones," while the nature and content of consciousness apparently depends very largely on similar instances in the blood-supply of the brain. It would seem that we have here a means of study of psychic problems both more general in its application and more effective than the introspective method of psychology proper.

F. H. KNIGHT.

The Philosophical Aspect of Freud's Theory of Dream Interpretation. H. WILDON CARR. Mind, No. 91, N.S., pp. 322–334.

According to the commonly accepted physiological theory of the dream, we would expect our dream images sometimes, at least, to approach exactness. As a matter of fact both words and deeds are characterized by incongruity and a deformity resembling the waking consciousness of an insane person. Psychical life is, according to Freud, divided into consciousness, or the field of present attention, foreconsciousness, or the field upon which memory may draw, and a final area of unconsciousness. Memory is composed of living psychical elements, certain of which a censor banishes from the foreconscious to the unconscious area. These elements, or forgotten wishes, disguise themselves by means of certain mechanisms of distortion, pass the partially suspended censorship of sleep, and express themselves in the dream. Our character depends, then, on the activity of this censor which Freud places below the intellectual element. The wish which escapes in the dream is nearly always sexual, because repression of the sexual desires is the character which man has acquired in the evolution of his psychical nature. Freud's theory requires restatement. For it would seem that conation in general and not specific wishes are the repressed psychical elements of the dream

content. A wish fulfilled no longer exists. Impossibility of fulfilment destroys it.

A. J. THOMAS.

The Externality of Relations. EDMUND H. HOLLANDS. J. of Phil., Psy., and Sci. Meth., XI, 6, pp. 463–470.

According to Mr. Russell, the doctrine of the externality of relations consists of two propositions: (1) relatedness does not imply any corresponding complexity in the relata; (2) any given entity is a constituent of many given complexes. These propositions are contradictory; the first is false, the second, true. Three proofs of them are offered: (1) that from asymmetrical relations; (2) that from the nature of analysis; and (3) that from the relations of simple terms. If Mr. Schweitzer and others are right in contending that asymmetrical relations are no more ultimate in mathematics than symmetrical relations, and that asymmetrical relations are explicable on an internal basis, the first proof collapses. The second proof is invalid because it rests on the unwarrantable assumption that all who reject the doctrine of external relations must hold that the act of knowing makes or alters the things known, or that external relations are the only alternative to exhaustively constitutive relations. The third proof falsely assumes that there are absolutely simple terms and that the only alternative to ultimate simplicity is infinite complexity. The valid formal theory of relations is that, "while every related term has a complexity in it which corresponds to, and in part accounts for, its relation, it is formally possible that the same term may be a member of an indefinite number of complexes."

RAYMOND P. HAWES.

Transcendentalism and the Externality of Relations. G. A. TAWNEY. J. of Phil., Psy., and Sci. Meth., XI, 16, pp. 431–436.

For Mr. Russell, truth is the correspondence between the relations of sense-data and the relations of unknowable physical objects. Apparently, the existence of such a correspondence, of our knowledge of it, of physical objects, and of other minds are sheer assumptions for him. Moreover, since this correspondence turns out to be a correspondence between two groups of sense-data, secondary and primary properties, instead of a correspondence between sense-data and an independent physical order, Mr. Russell's conception of truth as correspondence does not differ radically from the Transcendentalist's conception of truth as unity or coherence. Mr. Russell's doctrine of 'universals,' particularly his dualism of timeless universals and changing existences, is similar to that of many Transcendentalists: for both, the existence of an intelligible world is dependent on an order of timeless, changeless, subsistent relations, a priori known. In opposition to the Transcendentalists, Mr. Russell holds that there are terms which are absolutely distinct from their relations. Such terms he has been unable to define. Are they physical objects of sense-data or something else? What are sense-data and the "I"

for Mr. Russell? Like some Transcendentalists, Mr. Russell vacillates between the conception that there are terms to be related and the conception that relations somehow generate their terms. Has Mr. Russell's Transcendentalism advanced the problem of relations beyond the point at which Locke and Kant left it? RAYMOND P. HAWES.

The Person of Jesus Christ in the Christian Faith. K. C. ANDERSON. The Monist, XXIV, No. 3, pp. 333–361.

The theory of the non-historicity of the central figure of the New Testament is the only theory which will explain the New Testament, the only theory which will introduce coherence and intelligibility to contemporary Christian theology, the only theory which will heal the division between liberal and orthodox and presents a rational Christianity to the modern mind. This proposition, however, can not be proved, since it is negative; but its truth is manifest. Any message on the historical Jesus of Scripture fails to produce in the minds of the people any sense of reality. The Church contradicts itself so long as it worships him as God and tries to follow him as man. "If Christ is God, he is not man; if man, not God." The only legitimate metaphysic is monistic so the only legitimate theology must be monistic, and also the only legitimate Christology must be monistic. How can this monsim be reached? The Jesus of the liberal critics never existed, although there may have been some sort of Jesus living at the beginning of our era. The Jesus of liberal theology can never be reduced to the dimensions of a man. The central figure of the New Testament is the universalized and Hellenized logical successor of the central figure, Yahveh, of the Old Testament. The Jesus of the New Testament is not an historical character nor a myth; he is a symbol. His process of development is not that of a deified man, but that of a humanized God. The *fons et origo* of the Christian movement was not a human being, but an aspect, or character, or person of the one eternal God. The essence of the apostolic preaching was the worship of the one God under the aspect, or character, or person of Jesus. The different names applied to the originating source such as "Son of Man," "Second Adam," "The Man from Heaven," "The Nazarene," "Great High Priest," "The Lamb," "Alpha and Omega," "Baradam," "Barnasa," etc., are evidence that there existed a great cult or association with branches scattered all over the Mediterranean world which differed indeed in the method of presenting the great doctrine of the one God, but which were united in the doctrine itself. The above names were symbols representing the new doctrine. They were never intended to describe one person, but were the various aspects in which the doctrine of the One God was conceived by different parties. The Gospel narratives are to be read as symbolic stories which "half revealed and half concealed" the hidden truth. This symbolic teaching was antedated by a form of Gnosticism from which it outgrew. As spirituality declined the gross literal interpretation of the Gosepl stories became prominent. Originally, however, the Gospels were dramatized narratives with a profound spiritual meaning.

HENRY BENTSON.

La valeur morale de la science. G. BELOT. Rev. de Mét., XXII, 4, pp. 431–455.

It is impossible to reconcile science and morality by subordinating the former to the latter on the grounds either of theology, or of Kantian or monistic metaphysics, or of the Bergsonian doctrine that the brain and intellectual truth are instruments of action, or of the sociological theory that reasoning has evolved from social pressure and collective prejudices, or of pragmatism or of humanism. Science has an absolute point of view of its own that in its evolution becomes increasingly independent of every other influence. However, science stands for several moral values of the utmost importance, such as freedom of thought, and disinterestedness, the latter inculcating the attitude of justice, as Littré and Spencer have shown. The significant conception of the French Revolution, of which Descartes was the spiritual father, is that experimental knowledge appears to all alike and is not a privileged revelation, and that through common reason and science society is to be guided and directed. It is in this that the moral value of science finds its highest confirmation. But this value, both in science and in society, is less an established fact than a research, a task, an ideal to be realized.

W. K. WRIGHT.

Saint Thomas d'Aquin et Siger de Brabant. M. CHOSSAT. Rev. de Phil., XIV, 6, pp. 553–576; 7, pp. 25–52.

P. Mandonnet contends that St. Thomas's *De unitate intellectus contra Averroystas* is a refutation of Siger de Brabant's *De anima intellectiva;* but M. Doncoeur and others have come to believe that this work of St. Thomas is rather a refutation of some other writing of Siger which has not come down to us. The present writer finds a confirmation of M. Doncoeur's conjecture in the writings of Jean de Baconthorp. In his first "dispute quod libétale," Baconthorp refers to a work of Siger which cannot be the *De anima*, for the following reasons. The principal contention of the work mentioned by Baconthorp is exactly contradictory to the main thesis of the *De anima.* Not one of the three arguments quoted by Baconthorp from the former can be found in the latter. The very Aristotelian arguments denominated sophisms in the work alluded to by Baconthorp are set forth in the *De anima* as unquestionably valid. The title of the third chapter of the latter work is meaningless on the supposition that the two are identical. Objection three in the same third chapter establishes three points, all of which are denied in the work cited by Baconthorp. The two writings differ also in their methods of proof, their exegesis of Aristotle and their citations from him. If, as is generally admitted, the 'condemnation' of 1270 was aimed at Siger, that writer must have upheld the doctrines condemned, prior to that date. Since these doctrines are not to be found in the *De anima*, there must have been other writings of Siger containing them. All agree that in the *De unitate intellectus contra Averroystas*, St. Thomas is refuting Siger de Brabant. It would seem, however, that he is refuting the work of Siger referred to by

Baconthorp, and not the *De anima;* for the doctrines, exegeses, sophisms, and equivocations attacked by him are those which were set forth in the former and which do not appear in the latter. The texts that St. Thomas explains are precisely those quoted or implied in the Baconthorp writing, and many passages are intelligible only on the supposition that it is the same work, and not the *De anima* which he is refuting. Since Siger himself refers to a commentary on the *Traité de l'ame*, which he intended to write, it is very probable that it was this commentary which Baconthorp analyzed and St. Thomas attempted to refute. P. Mandonnet contends, however, that this commentary was never written. In opposition to the traditional belief that St. Thomas' *De unitate intellectus contra Averroystas* is a refutation of Siger's *De anima intellectiva*, the present writer maintains that the *De anima* was written later than St. Thomas's work and is a reply to it. St. Thomas's work helped to bring on the 'condemnation' of 1270, while the *De anima* seems to have been a vindication of Siger's position after the 'condemnation,' or perhaps an acceptance of the challenge hurled at Siger towards the close of the *De unitate.* This view of the relationship between the two works has a traditional foundation in the writings of François de Ferrare, and a historical foundation in those of Jean de Jandun and Gilles de Rome.

RAYMOND P. HAWES.

Bahaism. ALBERT R. VAIL. Harvard Theol. Rev., VII, No. 3, pp. 339–357.

Bahaism is the name applied to a great spiritual movement in southwestern Asia. At first it was called Babism in memory of its founder, Mirzi Ali Mohammed, but later it has been called Bahaism after Baha' u' llah, its greatest leader. It is not so much an organization as a spiritual attitude, not so much a new religion as religion renewed. It supplies some rather universal needs since it wins men of all classes. It grows and persists because it gives regeneration to men. Its value is spiritual; it offers no material prizes. It declares that the supreme height of spiritual attainment is revealed when man is enabled to meet sickness, poverty and death with perfect joy. It exalts social betterment, making its appeal to the high human instincts for spiritual, social, universal redemption. It attempts to educate men out of the image of the earthly into that of the heavenly. Education is its watchword. Material education builds up the body of our material civilization, but spiritual education is the only power which can bring to birth that divine civilization which is its light and soul. It is the proclamation of spiritual truth which sets free the spirits of men. This truth must be rediscovered and restated with each new age. Religion and science must harmonize. Religious truth, however, rests ultimately upon spiritual intuition. All four accepted standards of truth—the sensory, the rationalistic, the intuitive and the traditional must be combined before we can be certain of truth. The Bahai movement affects the lives of its followers through the one supreme concept—the inherent unity of the universe. The dynamic power in the method of presentation of the Bahais lies in their firm belief in their message. The

spiritual teacher shows his belief in his own teaching by himself *being* what he recommends to others. In general, the Bahai movement is but a new statement and a new demonstration of the power of the Holy Spirit in the education of humanity.

HENRY BENTSON.

Du sentiment religieux dans ses rapports avec l'art. G. DWELSHAUVERS. Rev. de Mét., XXII, 4, pp. 500–516.

Religious feeling must be interpreted psychologically; it is not primarily a matter of rite or creed or external observance, but a fact of the inner consciousness. It is the communion of heart and thought with that which animates all things, accompanied by the conviction that one's life and emotions participate in the universal life. The specific emotion produced by those works of art which we think of as religious in feeling is similar. Whether a work of art—sculpture, painting, music or what not—is or is not religious in feeling does not depend upon its theme or technique, but upon its capacity to reveal the inner significance of things with more intensity than is possible for the external senses assisted by abstract reasoning, and so to evoke a feeling of participation in the soul of things, in the spiritual, the universal.

W. K. W.

Relativity, Reality, and Contradiction. ARTHUR O. LOVEJOY. J. of Phil., Psy. and Sci. Meth., XI, 16, pp. 421–431.

In his defence of the objectivity of secondary qualities, Dr. Cohen contends that there is nothing contradictory in a thing's having opposite predicates in different relations. He thus presents to the Neo-realists a new weapon with which to prove that all perceptual content, hallucinatory or otherwise, is equally objective, external, and independent of the perceiver. But Mr. Cohen's notion of relativity is seriously ambiguous, and overlooks the distinction of "different relations." It either proves the subjectivity of all qualities and terminates in relativistic skepticism, or fails to disprove the subjectivity of the secondary qualities, leaving one in idealism. To disprove the subjectivity of anything, and thus be of service to Neo-realism, Dr. Cohen should add that the diverse relations which make it possible for an object to possess contradictory qualities must all be relations between objects; relations independent of the perceiver. But, even then, the conception is ambiguous. If Dr. Cohen means that qualities of objects are reducible to relations between objects, he is overlooking a very elemental distinction. He is confronted with a world composed exclusively of relations with no terms to be related, and he has not proved the possibility of "contradictory predicates." If he means that the qualities of an object vary with, and are determined by, its relations, he is right, but still has not proved the possibility of "contradictory predicates." If he means that, while qualities are irreducibly qualitative, the same object may have one quality in its relation to one physical object, and, at the same time, another quality in relation to a second, he is endeavoring to set

forth an "objective relativity" for which we have no empirical examples and which is inconceivable. Therefore, whatever its interpretation, Dr. Cohen's relativistic conception of qualities must be rejected, for there is nothing in it to show how "contradictory qualities" can be predicated of a single object without logical contradiction.

RAYMOND P. HAWES.

Filosofia e Positivismo. R. ARDIGÒ. Riv. di Fil., VI, 4, pp. 394–401.

Starting from the conception of philosophy as the fundamental member of the hierarchy of the sciences, that which posits and justifies itself and is presupposed in all the others, five essential characteristics of a philosophic system are discovered. And in respect to each of these, positivism is shown to be a philosophy in the true sense, and strictly speaking the only true philosophy. (1) Philosophy deals with the fact of human thought itself, in itself and as a representation of objective existence. This is preëminently the method of positivism. (2) Philosophy investigates the nature of truth and the basis of certainty, for which other sciences are dependent upon it. Positivism takes its departure from man, the indisputable reality. (3) Philosophy provides the other sciences with their logical instruments of work. Laws of thought or logical principles are in fact only rhythms in experience of uniformities of nature which have impressed themselves upon the organism, and positivism is the correct method for reaching such principles. (4) Philosophy summarizes and includes the highest results of all the other sciences, and is in position to reach and verify the valid generalizations of greatest value for each. Positivism is that philosophy which takes most serious account of the concrete sciences, yet without (as some aver) placing itself on a level with them. (5) Finally, philosophy establishes the criteria for judging as to the objective value of any result of intellectual effort. The basis here again is the study of reality as revealed in experience. The metaphysical systems inevitably fall into subjectivism and scepticism. The title of philosophy should be reserved for the highest, most general and most solid results of science and not given to mental vagaries and freaks of fantastic concept-juggling.

F. H. KNIGHT.

Zur Begriffbestimmung und Analyse der Gefühle. RICHARD MÜLLER-FREIENFELS. Z. f. Psych., LXVIII, 3 and 4, pp. 237–280.

Recent discussions on the demarcation of feelings from other mental phenomena have not been entirely free from the danger of falling into verbal disputes. Some writers forget the differences between feelings and sensations; others forget their similarities. This article takes the genetico-biological point of view, that feeling and sensation are specifications of an originally undifferentiated consciousness. A phenomenological or introspective criterion for feeling has not been and cannot be found, to mark off this consciousness on the one hand from sensation, on the other from volition. Suppose now that feeling, sensation, and will are differentiations of a complex primitve con-

sciousness; then just as lower animals are still existing side by side with higher ones, so the developed mind still has forms of undifferentiated consciousness which are variously called 'organic sensations' and 'organic feelings.' It is better to call them organic consciousness. This will allow a definite criterion for sensations, viz., the consciousness of objectivity. While sensations and 'organic sensations' are to some extent similar, as are all conscious phenomena, it is of the greatest practical value to limit the term *sensation* to the senses. Just as sensations are a development of localization on the objective side, feelings are a development of evaluation (Bewertung), on the subjective side; and biologically, it is quite intelligible that feelings need not be definitely localized. With regard to psychophysical correlation, we must suppose, in accordance with our view of development, that feelings are the conscious concomitant of a *specification* of the physiological phenomena that underlie organic consciousness. Some argue that feeling is an attribute of sensation because it cannot be isolated. But sensations cannot be isolated in the actual 'stream of thought' either. As Külpe has shown, a sensation does not vanish when feeling vanishes, and a sensation can be determined without specifying the feeling, which is not true of attributes of sensation. Feeling is not an effect of sensation, nor a secondary effect of the same cause underlying the sensations; for there are instances that prove the contrary. In actual experience, sensations can not be isolated. Only perception exists. Perception does not have ideational content as its main factor, as associationistic psychology supposes, but has for its constitutive factors affective and motor reactions, which form a kind of posture (Stellungnahme). Feelings are not limited to pleasantness and unpleasantness; indifference, for example, is also a specific feeling. In the perception of things there are type-feelings or postures, such as toward 'dog,' 'man,' 'snake,' etc. Similarly, ideas are not reproductions of sensations, but of perceptions with an affective-motor element as the principal thing, while reproduced objective elements are only incidental. Conceptions, likewise, are not general, or universal ideas, or images of words, but are mainly a meaning consciousness fixated in the auditory-motor process of speech. On the introspective side, it is a feeling of understanding, with a readiness to act accordingly. The pictorial representation of a concept is only possible and is usually not present. Feeling and processes of impulse and will, both being subjective, are hard to separate. If necessary, we may distinguish the former as passive and the latter as active. Feeling and emotion are also closely related. The latter has a temporal course. A distinction may be made between emotions of the state of mind, such as fear, pride, and depression, and impulsive emotions, such as love, anger and hate. An emotion does not depend upon perception, which sometimes kindles, but does not constitute it. As to motor factors, they are not experienced in consciousness as activities in the actual members concerned. Ziehen's supposition that before an action there is a memory image of the coming movements is quite impossible in most cases. William James supposes that an idea of the result and a 'fiat' form the antecedent of action.

What does happen is only a general feeling of direction toward the action, and it does not become a *fiat* except in cases of conflict of impulses. In actual movements, though there is no consciousness of the physical processes, they often arouse intense feelings, as in gymnastics and dancing. As to the physiological processes underlying feeling, there are two theories: the central theory and the peripheral theory. A proper unification of the two is to regard feelings as the conscious concomitants of centrally aroused peripheral bodily processes. Since there are various postures toward external stimuli and sensations, feelings must of a great many varieties. Pleasantness and unpleasantness are only inclusive names of infinitely differentiated states. A pleasantness in itself or its opposite is an abstraction. Further pleasantness and unpleasantness, even regarded as two great classes, are all. Wundt, for example, adds excitement and depression, tension and relaxation in his tridimensional system. Lipps divides feelings into three great classes: (1) feelings of object, (2) affective feelings, (3) feelings of striving and the higher feelings. In many of the feelings enumerated by Lipps, motor factors are apparent. While his classification is not final, it is at least in the right direction. We must emphasize definitely the doctrine of specific feelings or specific postures. The feeling of friendship for A, for instance, is qualitatively different from that for B. In perception, such recognition of a friend at a distance, the specific feeling and reaction plays a far more important part than the sensation or idea. As feelings always represent a typification, they are relatively less numerous than single sensations. In thought and imagination, as elsewhere, specific feelings and postures play a more important part than ideas. When men only realize how inadequate mere imagery is for thought, then they will begin to turn their attention to the hitherto neglected reactive side of the human mind.

YUEN R. CHAO.

Der Begriff des Unstofflichen bei Aristoteles. A. MAGER. Ar. f. G. Ph., XX, 4, pp. 385–400.

A clear understanding of the concept of the 'immaterial' is important for the reason that on it is erected the still more important concept of the spiritual. In the realm of crude matter, all movements and changes exhibit a kind of regularity which modern physics calls the law of inertia. In this capacity of inertia the ancients found the essence of materiality. The law is expressed in the familiar sentences: *Quidquid movetur, ab alio movetur et movet aliud.* The pre-Aristotelian thinkers, however, did not realize the inadequacy of this law when applied to the phenomena of life. To them the soul, which was commonly regarded as the origin of motion in the realm of life, was nothing but a body, more refined than the others, yet soluble into its primeval elements. Aristotle first remarked that, while movements obeying the law of inertia without exception point to materiality, those movements which partially deny that law suggest immateriality. In growth, we find the latter kind of movements. If we consider the movement, the purpose of nutrition, we shall find

the peculiar fact that the mover and the moved, the nourisher and the nourished, are one and the same. Only the effect produced by the growth falls upon some external body. Thus the law of growth appears to be: *Quod movetur, non ab alio movetur, sed solum movet aliud.* Plant life thus presents a kind of dualism, a combination of the material with the immaterial. That the plant has to procure nutrition from external source proves its materiality; but that the effect of nourishment, instead of passing over to a third body, comes back to the plant itself, shows the presence of something immaterial. Whatever brings back to itself the cause and effect of its activity is called by Aristotle "soul-possessor." Its material side is the body; the immaterial side, the soul.

SUH HU.

The New Christianity and World-Conversion. D. C. MACINTOSH. The American Journal of Theology, Vol. XVIII, pp. 337–354.

Christianity in its traditional form is inadequate for a world-religion. A new Christianity refined by the fires of criticism is arising out of the effort of world-Christianization, and out of a parallel effort among non-Christian religions to increase their influence. Christian propagandism is handicapped by its irrational and unscientific elements. Hitherto this intellectual difficulty has not been emphasized; for missionaries have been content to make converts among a class who are low in the scale of intellectual ability. There are striking similarities between our modern missionary problems and the problems which confronted early Christianity. The latter, when still Jewish, appeared barbaric and irrational to Hellenic culture; so the Christianity of our missions appears to the philosophy of today. The Christianity then prevalent never became dominant. New religions sprang up corresponding to the new religions of today. Old ones revived, as they are reviving today. Gnosticism arose then as absolute idealism has arisen now. Out of the great competition of religions arose the Christianity which converted the world. What new Christianity will presently arise to survive as a world-religion? The old superstition, the old evangelicalism, the old orthodoxy of Christianity as at present presented by our missionaries prevent its acceptance by cultured non-Christians. The Jewish element in Christianity is practical; the Hellenic, mystical. The former *must* have a moral; the latter a metaphysical import. The Greek church sought, in the doctrine of the trinity, to conserve both the practical and the mystical elements. We cannot blame Mohammedans for not accepting such a clumsy artefact. Nor should we be surprised that they see in the trinity the survival of polytheism. We must find a better way of holding together the values of moral and mystical religion.

A. J. THOMAS.

NOTES.

On August 26th, the Philosophical Union of the University of California celebrated its twenty-fifth anniversary. The address of the occasion was delivered by Professor Josiah Royce on the subject "The Spirit of the Community."

The Union was founded in 1889 by Professor George Holmes Howison, then Mills Professor of Philosophy in the University of California; and to his inspiration and guidance, the University and the Pacific Coast are chiefly indebted for that persistent cultivation of philosophic interests for which the Union has stood. The conviction expressed at its founding was that philosophical studies had a supreme interest for human life in all its aspects; and the members banded themselves together to increase philosophy's control over their own aims and conduct, to awaken its interest in others, and in particular to maintain at the seat of the University, a central association for philosophical study.

The annual addresses have been notable features of the Union's life. Usually when the program for the year's study was based upon some recent book, these addresses have been delivered by the authors themselves. The invitations to such men has given occasion for some of the important philosophical utterances of the time. Among the Union's published lectures may be mentioned "The Conception of God," Josiah Royce; "Christianity and Idealism," John Watson; "Philosophical Conceptions and Practical Results," William James; "Psychology and Philosophic Method," John Dewey; "Philosophic Orientation and Scientific Standpoint," James Ward; "The Heart of Ethics," G. H. Palmer; "The Relation of Time and Eternity," John Ellis McTaggart; and "The Genteel Tradition in American Philosophy," George Santayana. The annual lecture of last year, by Canon Hastings Rashdall, and Professor Royce's anniversary address remain to be published.

Dr. Harold Chapman Brown of Columbia University has been appointed Assistant Professor of Philosophy at Stanford University.

Dr. W. B. Elkin is Acting Professor of Philosophy at Indiana University during the absence of Professor Fite.

We give below a list of articles in current philosophical magazines:

THE PSYCHOLOGICAL BULLETIN, XI, 8: General Reviews and Summaries: *K. S. Lashley*, Recent Literature of a General Nature on Animal Behavior; *C. H. Turner*, Recent Literature on Tropisms and Instinctive Activities; *S. B. Vincent*, Sensation and Sensory Discrimination in Animals; *J. B. Porter*, Habit Formation, Imitation and Higher Mental Processes of Animals.

XI, 9: General Reviews and Summaries: *J. W. Baird*, Memory, Imagina-

tion, Learning and the Higher Mental Processes (Experimental); *W. C. Gore*, Memory, Concept, Judgment, Logic (Theory); *E. H. Cameron*, Reading; *J. E. Downey*, Graphic Functions; *W. V. Bingham*, Vocal Functions.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, XI, 17: *George Santayana*, The Coming Philosophy; *E. H. Hollands*, The Externality of Relations.

XI, 18: *H. B. Reed*, Ideo Motor Action; *J. F. Dashiell*, Values and Experience.

XI, 19: *John Dewey*, Psychological Doctrine and Philosophical Teaching; *N. Wiener*, The Highest Good; *W. B. Pitkin*, Time and Pure Activity.

XI, 20: *H. A. Overstreet*, The Function and Scope of Social Philosophy; *J. E. Downey*, Judgments on Handwriting Similarity and Difference.

THE PSYCHOLOGICAL REVIEW, XXI, 4: *W. S. Hunter*, The After Effects of Visual Motion; *M. Barrett*, A Comparison of the Order of Merit Method and the Method of Paired Comparisons; *F. L. Wells*, The Systematic Observation of the Personality in its Relation to the Hygiene of Mind.

REVUE PHILOSOPHIQUE, XXXIX, 8: *F. Le Dantec*, La conscience épiphénomène; *Th. Ribot*, La logique affective et la psycho-analyse; *N. Seliber*, La pensée russe présente-telle des tendances originales en philosophie?

RIVISTA DI FILOSOFIA, VI, 4: *R. Ardigò*, La meteora mentale; *R. Ardigò*, Filosofia e positivismo; *B. Varisco*, L'arte nell'educazione del sentimento nazionale; *G. Magiore*, Intorno all'Etica bruniana; *A. Mieli*, Per una classificazione delle arti; *G. Rizzo*, el problema fondamentale della filosofia moderna e la originalità di Rosmini; *J. Dicksteinòwna*, un filosofo polacco; *A. Gnesotto*, Ancora del giudizio particolare.