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THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

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THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY

AND

SCIENTIFIC METHODS



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AND

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PSYCHOLOGY AND SCIENTIFIC METHODS

FROM THE COMMON-SENSE LEVEL

A DOZEN years ago we were all tingling with a pleasant excitement, even those of us who were not technically either philosophers or scientists. William James had demonstrated over again the sisterhood of philosophy and literature by the effectiveness with which he rescued for us M. Bergson and Mr. Schiller and Mr. Dewey, and set off the Roman candle of his own Pragmatism, one brilliant flare hard on the golden path of another. And now James is dead, and Pragmatism is a memory, and M. Bergson and Mr. Schiller and Mr. Dewey.

There was a moment when we saw great things in Pragmatism and Creative Evolution. The natural sciences had become arrogant. They had begun to deny all kinds of truth but those which were to be apprehended in one way. It was a relief to find some one who would point out other modes, define truth in other terms, and open up again eternal questions by casting salutary doubts upon the intellect and the way it had been conducting itself.

The sudden vitality of the anti-intellectuals came—to many of us at least—from the welcome that greeted the reopening of metaphysical problems. The whole affair was one of metaphysics. The masters themselves rarely if ever cast doubts on the intellect as a rough practical tool. And the sudden subsidence came, I believe, from a perception that amazed no one, apparently, so much as the metaphysicians themselves—that metaphysical speculation had an immediate and sensitive and definitive connection with even the crudest of affairs in the plane of common-sense, and that common-sense affairs reacted as vitally upon metaphysical speculation. At all events they were promptly confronted with the amazing spectacle of a metaphysical philosophy become popular as the movie, and with much the same clientele. Truth became suddenly easy, being not very distinguishable from the practises, already very dear to the general, of “putting it across,” or of intuiting it directly and spontaneously. Every man became his own oracle.

Now it is not quite just to judge a metaphysical philosophy by the

popular perversions of it on the street, though it is, in one sense, to be judged by its total yield, popular and esoteric. But if Robinson was not the touchstone, still there was Mr. Dewey with his whole apparatus writing in the *New Republic*! Clearly the whole thing had got out of the metaphysical plane into the practical where it had never been supposed to have validity. And the metaphysicians found themselves put to it to hit upon an answer that would still the popular disrespect for the practical reason and practical truth—to hit upon an answer, that is, that was not as valid for themselves as it was for Robinson.

For if their own plea was that they were on the metaphysical plane, still in the common-sense plane the belief that there was a truth, real and valid, in relation to which the best practical truth we could come by was but a stop-gap, was itself a metaphysical affair. Without that loan from metaphysics there was nothing to make us ill at ease with our stop-gap, or give us much respect for the intellect as a thing higher than cunning. If metaphysics robbed us of that faith by discarding it itself, there was nothing for us but to follow its example. As for the metaphysician it was a little hard for him not to feel himself in something of the same dilemma. For though it may have seemed but a poor defense to say that for him the sense of an ultimate truth served but as a practical spur to keep him everlastingly at it, still it was a little hard to say what he was everlastingly after, if not after *that*. And it was equally hard to say what he was everlastingly after it with, if not with his intellect. James's own desperate struggle to put a reasonable face upon it in his supplementary volume, *The Meaning of Truth*, was an interesting confession of this dilemma, regardless of what it said. What it said was, in round-about effect, a reconstitution of this metaphysical sense of ultimate truth. And there, to use his brother's phrase, he was.

As to the other non-intellectual form of truth—the æsthetic intuition of chaos—it was easy enough to see that it might have been grasped the better without a meddling mind. But it was not so easy to see that M. Bergson would have been the greater philosopher if he had had less of his wits about him. It was hard to see that his philosophy would have emerged at all but for his rational statement of it, and the tacit accompaniment to every assertion that he made of the dictum, "This is true"—and true in the metaphysical sense that his cult was so avid to deny.

In other words, after the first glorious nine days of the anti-intellectual wonder, it began to be apparent that M. Bergson's philosophy was still a human affair. If the cat, as might readily have been believed, could have "intuited" chaos even better than M. Berg-

son himself, and so have been in that mode the better philosopher of the two, still we were in an eternal difficulty about the cat from his refusal to tell *what it was like*. Jean Christophe, after his return to Paris, finding a new school of music sprung up in his absence, went on composing in his old manner, putting into his score tremendous meanings which no one but he could understand, and which he himself could express in no other way. And so he died, a saddened old man. This may, indeed, have been the care that killed the cat. But even of this we can only surmise. The cat remained silent, feline. M. Bergson, however, was human, and though he obviously had intuitions of chaos, his utterances were philosophy by virtue of his attempt to tell *what it was like*—by virtue of the thing he piqued himself on upsetting—the dialectic search for truth by aid of the intellect.

All this, however, is beside the point—or would be but that with the subsidence of the anti-intellectuals the human situation is pretty much where it was before. Not quite, indeed. Since then natural science has been a little less assured of its metaphysical competence. On the other hand human nature on the common-sense level—which also lies outside the bailiwick of science and which looked hopefully for a moment to be rescued—finds itself rather more hopelessly captive than ever. The sense of truth—still to seek, indeed, but none the less *there*, somewhere, to be struggled for with all the resources of a clarified intellect—has weakened. The putters across of anything that will work, and the bright army of æstheticists with chaos at their finger-tips—sorry enough perverters of the doctrines that set them up, it is true—have none the less discredited still further the humane discipline. Science, however, has gone on with the momentum of a tremendous validity in its own right, while nothing since the *felo de se* of anti-intellectualism has had enough weight to counter the encroachments which old scientific habits of thought never ceased to make on the human preserves. From the humane point of view the whole fight is still to make.

The smile of the humanist has been but a sorry affair for four or five decades, but not for want of matter to smile at. His scientific masters have sometimes risen to high comedy. There was the virtue of humility, for example. That virtue, with which the golden age of Huxley, Tyndall, and Clifford ushered in the evolutionary movement, had two aspects. One was the humility forced upon the race when we found ourselves not the center of creation but a fortuitous detail of it; the other was the personal humility of the patient investigator in the presence of a great task to which his own contribution could at best be but infinitesimal.

To the first of these humilities the scientific response was to rebuke

metaphysics, spinning its airy dreams out into the void, for its presumption, and to overthrow theology, lifting man to the supreme place in creation, for its arrogance. Then promptly, this done, it spun an airy metaphysical dream of its own out into the void—the mechanical universe and the reign of law—and projected a cosmology which elevated, on the whole, the scientist to the supreme seat. As for relative humility, the older theological cosmology had a god at the center of it in relation to whom personal humility was often more observable—in Dante, say, or à Kempis—than it was in Clifford or Haeckel. To sit at the pinnacle of a metaphysical structure and look down with contempt at one's self is not altogether humiliating. At all events the newer dreamers did rather strut through the latter half of the nineteenth century.

Something of the habit of looking down from this metaphysical pinnacle affected the scientific humility in the second aspect of that virtue. For if the scientist became humble in respect to the greatness of his task, and patient and painstaking in his procedure—to this there is no cavil—he promptly became arrogant enough in his human relations. This took first expression in his defining his task not from the point of view of science itself, but from the point of view of the metaphysical dream. Science itself, it is obvious, defined by its own principles, extends no farther than its own experimental verifications have taken it. The metaphysical dream, however, has pictured it as one day bringing within the range of mechanical explanation the whole human scene, from the pageant of history down to the last delicate inclination of a philosopher's sense of humor, and binding it all up in the covers of a mighty physics text-book. The difference is colossal and obvious, but the giants of the nineteenth century apparently were blind to it. There can hardly be anything more naïve in the documents of the mind than Spencer's little essay, *What Knowledge Is of Most Worth?* with its complacent conclusion, falling with the solemnity of doomsday, at the close of each paragraph. As a piece of special pleading it is admirable. As the utterance of a mind that held in contempt all belief that was not experimental it may cause a smile which science, even yet, apparently, can not account for. The humility of science in defining its colossal task, at least, is not observable.

None the less the spell of this metaphysical dream has been so potent that science has come to be considered, as it has considered itself, the intellectual arbiter and court of final appeal of modern life in its humane aspects. And it has assumed this jurisdiction without even a pretense that it has already mastered the data of this humane life or established a discipline for it. Now however trivial the

ephemeral affairs of every-day existence, played upon as they are by gusts of feeling and transient desire, may seem to the metaphysician or scientist, the metaphysician at least will acknowledge that ethics is a legitimate part of philosophy. He may even go so far as to believe that the final test of a philosophy is its susceptibility to having an ethics founded upon it. For even he will not have settled once for all whether philosophy exists for the sake of life, or life for the sake of philosophy. One or the other of these relations, however, he is likely to favor. In either case an ethics will be a part of his doctrine. If philosophy exists for the sake of life, ethics will be the flower of his system. If the reverse, it will be the establishment of *values* by which philosophy is held in its supreme place. At least he will remember that in point of time men are human before they are either philosophers or scientists, and that if philosophy and science exist it is because of some sanction in the moral code of life on the common-sense level.

It is credible that such an acknowledgment has not been made by men of science because they have not worked out an ethics on their own data to point out the need of an ethics. The point is subtly vertiginous. It anchors itself stably enough, however, at the recollection that an ethics is not to be had on the data of science. The human consciousness, its desires, and the sense of relative values—the stuff of ethics—mark just the point at which positive science has stopped frustrate. Even to the metaphysical dream of a reign of law the prosperity of a tubercle bacillus—to take a case which touches science nearly—is as precious as the prosperity of the host. If the scientist takes sides with the host he does it as a man, not as a scientist. Even the merit of a disinterested curiosity that the “pure” scientist piques himself on if he rises above taking sides is based on an ethics that he has borrowed from another system of thought.

Science has indeed been a blithe borrower. From metaphysical method it has borrowed the imaginative liberty to project its dream of a mechanical universe—and refused to return it. More specifically it has borrowed its fundamental hypothesis of the uniformity of nature, without which the whole of its experimental method would be futile. From humanism it has borrowed the *values* of its pursuit—the merits of its disinterested love of truth, and of its contribution to human happiness, and the virtues of its patience, its thoroughness, and its humility! And with these borrowings it has managed to assert its intellectual sufficiency to be the arbiter of modern life, forgetful—or perhaps too innocent to know—that the very claim to such a position lies in the humane field.

The prompt response of science to all such considerations is to re-

treat once more to its dream of the mechanical universe and the reign of law. It pictures immutable necessity as functioning relentlessly, in spite of our puny desires and futile values, and determining irrevocably every status and every motion from the courses of the stars down to the existence of these desires and these values themselves. And it pictures itself as in some way identical with that thorough-going process. It need not. The reign of law, granting its existence, will go on, caring nothing for the solicitude of science. And if the human consciousness is after all but the mechanical product of this law, still science is but the product of the consciousness. It builds up from that end, and not down from the other. It is answerable thus to the consciousness, answerable, that is, to the orientation of life as that consciousness views it.

Incidentally it is this point—that science itself is a detail in the moral orientation of life, a body of useful practical knowledge when looked at from one angle, or a field for the disinterested play of an intellectual curiosity when looked at from another—it is this point that bears quizzically upon the fortunes of science. Whether it will or no, science can not get quit of its subordination. There have been periods when it has not been very highly valued in the hierarchy of ethical values, and in those periods it has not been very much pursued. The Middle Ages we usually look upon as such a period. There are civilizations to-day, such as they are, that do not value it. Tahiti does not care much for it and it is not much cultivated there. Various civilizations value it for various things. The Middle West in America cares more for it as a practical body of knowledge than as a field of disinterested curiosity, and supports it more heartily in that direction. We are interested just now in the belief that there have been recent civilizations that have valued it very highly, but wrongly. The Great War with its scientific development of the modes of destruction, and the social unrest at the scientific development of industry are symptoms that are significant.

It is not impossible that our own evaluation of science may go astray. Scientific development to the neglect of an ethical and evaluating discipline faces the threat of the vicious circle. Science may be guilty of a *felo de se* as effective as that of anti-intellectualism itself.

Meantime poor human nature, from which both philosophy and natural science take their impulse, grows rank for want of gardening. Anti-intellectualism could not help; the needed regimen is intellectual—a process of dealing reasonably with the data of human desire and humane values. Science can not help, for science is helpless with those intangible premises. If science itself should begin to

suffer from its failure to see its own safeguard in a moral hierarchy, and so deprive human nature of one of its chief instruments, the human garden will be in a bad way indeed. What the description of that hierarchy should be, and by what discipline it should be restored, are, of course, eternal questions. But that those questions are a challenge to the intellect, on the one hand, and on the other that the intellect as science uses it is not in a way to answer them, are perturbing considerations to those who, from outside, have watched the philosophical movements of the last two decades with a jealous concern for a proportionate conception of life.

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THE PSYCHOLOGICAL BASIS OF VALUES

RECENTLY there have appeared in this JOURNAL several articles in discussion of the questions: What is the nature of values and of valuation? and, What objects are valued? These questions have been dealt with in fresh and concrete fashion, far removed from the complex and formal dogmatism of the German schools of value-philosophy. The latest contributions to the discussion come from Professors Bush¹ and Dewey.² It is because the writer believes that these articles did not reach a common ground, that he ventures to attempt to make a few rough places plain, and to sketch the outline of a theory (developed more fully elsewhere³) of the psychological basis of values, which is designed to clear away many misunderstandings.

I

I purpose first to state several differences of opinion among the views of Professors Bush, Dewey, and Urban.⁴

1. What values are fundamental? Professor Urban answers: "It need scarcely be said that an ultimate definition of value is concerned only with intrinsic value, all extrinsic or instrumental values going back ultimately to concepts of intrinsic value." Professor Dewey does not explicitly refuse the name "value" to intrinsic, immediate goods, but uses it for himself almost entirely in reference to instrumental values. He does this, because he wishes to emphasize

¹ "Value and Causality," this JOURNAL, Vol. XV., No. 4, 1918.

² "The Objects of Valuation," *ibid.*, Vol. XV., No. 10, 1918.

³ "Values, Immediate and Contributory, and Their Interrelation," N. Y. Univ. Press, 1919 (in press).

⁴ "Value and Existence," this JOURNAL, Vol. XIII., No. 17, 1916.

the indeterminate character of many intrinsic goods. To call immediate goods "values" seems to him to grant that these values are "completely there for knowledge, provided only we could get at them." Professor Bush recognizes two classes of values, the one, immediate, intrinsic, and independent, to be contrasted with the other, mediate, instrumental, and dependent.

2. Under what conditions does intrinsic valuation take place? Professor Bush believes that "independent values are, so to speak, the premises of specific value syllogisms. They can not be criticized while they remain premises . . ." Professor Dewey believes that "there are situations wherein the adequate data for settling a determinate like and dislike *can not* be had until after an act which issues from a preliminary estimate or valuation as to what the good *will* be." Professor Bush believes that intrinsic values apply to the present; Professor Dewey thinks that they are often ends to be arrived at through future experience.

3. Special theses of these writers are:

Bush: Value is to be distinguished from causality by the presence in the former of the bias or interest of a living creature.

Dewey: Immediate goods are not all *given* "in the sense of being completely there for knowledge provided only we could get at them." We may make mistakes in "settling" likes and dislikes if we try to determine them apart from the consequences of the specific situations in which they arise.

To one who compares the articles of Professors Bush and Dewey, it would seem that their authors are less concerned with finding a broad and fundamental standpoint and with reconciling differences of opinion, than with establishing individual propositions. Professor Bush's article gives the more comprehensive viewpoint. He states the condition of the existence of value, namely, the presence of bias or interest of a living organism. He then distinguishes two separate classes of values, immediate and instrumental, and gives characteristics of each class which serve to contrast it with the other. Thus, immediate values are "independent," related to the present, given as good or bad, friendly to beauty and esthetics. Instrumental values, on the other hand, are dependent, related to the future, judged and criticized, friendly to usefulness and ethics. It is not evident from his article whether Professor Dewey is willing to recognize a class of immediate values that are related to the present and given as good or bad irrespective of judgment. He does say, however, that *some* intrinsic goods can be established as goods only at some future time, the implication being that these intrinsic values are not independent of the future. He also makes these values de-

pendent, not only upon the future, but also upon a provisional judgment which leads to an act whose consequences determine these intrinsic goods. These goods are "brought into existence" only when by actual experiment I determine the value of the consequences of my action. My attitude of liking or disliking the consequences of an action can not always be determined before the action has taken place. Apparently Professor Dewey would not care to recognize sudden or temperamental likings and dislikings as intrinsic values. He seems to feel that to be dignified by the name "value" they must prove their worth in the experience of the individual.

From the last observation, it would appear that Professors Bush and Dewey use the word "value" in different meanings. Professor Dewey would associate it only with goods that are *judged* as means or ends. Professor Bush would apply it also to cases of liking and disliking where no judgment is made as to whether the value is justified. I believe that the use of "value" to describe my relation to objects that I like, dislike, desire, want, wish, *etc.*, is sufficiently widespread to give good reason for its retention in this broader sense. I shall therefore speak of my most idle fancy for an object, independently of whether it is worthy or unworthy in reference to a standard, or of whether I shall retain it after further consideration of experience with it, as of *immediate* value.

With Professor Dewey, however, I shall distinguish between the *functional* aspect of instrumentalism in the judgment, and the aspect of instrumental character of the *content* of the same judgment. When it is said that the judgment "I must go to see my physician" is functionally instrumental, it is meant that the very *act* of judging is instrumental in causing me to pay the visit. This is quite distinct from the usefulness or uselessness of my visit itself in effecting my cure.

II

After this preliminary discussion, I may proceed to sketch certain relevant aspects of a detailed theory of values. Previous attempts to formulate a theory of values in an empirical way have plunged *in medias res* with little regard for any fundamental principles underlying this research. The time is ripe for a thorough discussion of the more elementary principles of a value philosophy. Such work has been confined hitherto to the German schools of value philosophy and their American representatives. Rickert and Windelband are notable examples of those who have erected a value philosophy on the basis of transcendentalism. No thoroughgoing analysis of values and valuation from a strictly empirical standpoint has yet appeared. In this brief paper it would not be possible to give an exposition of

such a philosophy. I shall confine myself to a few observations that may clear away some differences of opinion expressed in the two articles under discussion.

My remarks will concern two topics: I. The psychological basis of values. II. The relation of values to knowledge.

I. THE PSYCHOLOGICAL BASIS OF VALUES

Professor Bush has well distinguished a causal from a value situation by saying that the latter requires the presence of the bias or interest of a living creature. Metaphysically, perhaps, it might be maintained that a universe of minerals and plants contains intrinsic values—objects that are good or bad in themselves without reference to any living creature. From the empirical point of view, however, such a proposition appears highly absurd. We find things good or bad; we admire or despise them; we may think of them as to-be-liked or to-be-disliked; but the reference to a living interest is always apparent. If, in certain cases, we tend to hypostasize the attractiveness, give it an “over-personal” reference, and say that norms of beauty and morality exist in and for themselves as well as for us, we pass from an empirical to a metaphysical standpoint. The only empirical evidence in favor of such a theory would be a consensus of opinion among human individuals. But the great majority of our likes and dislikes can not so be universalized. All immediate values, on the other hand, are found empirically to be related to a human interest. It is therefore incumbent upon the empiricist to deal with these values from the standpoint of interest, and to reserve the cases of disputed values for separate discussion.

So in the case of instrumental or contributory values, it is quite superfluous to say that, since the rain is contributory to the growth of crops, rain is of contributory value apart from all human interest. Such a statement is superfluous because the word “causality” sufficiently expresses the mentioned relation between rain and crops. It is least confusing to keep the word “value” for situations where human interest, or the interest of some other living creature, is involved. By such a procedure we shall steer clear of many a metaphysical subtlety and find it more possible to formulate a theory of values which shall be wholly empirical.

If we recognize the distinction of Professor Bush between value and causality, we shall, nevertheless, find it undesirable to employ one of the adjectives which he uses to designate immediate values. The word “independent” is too indefinite to be satisfactory. By his own distinction, *all* values are *dependent* upon “the ego-centric situation.” We shall, therefore, confine our designation of this class of values to the words “immediate” and “intrinsic.”

For the purpose of a fundamental separation of two classes of values, the time-distinction of Professor Bush is somewhat confusing. He holds that immediate values relate to the present, contributory values, to the future. Professor Dewey criticizes this distinction on the ground that many immediate values also have to await the future before becoming "settled." That is, I may not be able really to tell whether I like or dislike an object or action until I learn the consequences that it will carry with it. It may be remarked that Professor Dewey apparently uses the term "immediate value" in the sense of "known immediate value" and "permanent immediate value." This is a narrower application of the term than that employed by Professor Bush, who would, I think, admit into the category of values momentary likings and dislikings. Professor Dewey inclines to a eulogistic use of the term "value." He seems to feel that "value" connotes stability. I think that Professor Bush would interpret Professor Dewey's example as one in which an entirely new immediate value had arisen. He would say that the citizen who revised his former sentiment as to the immediate value of the children's parade in Syracuse, by coming to believe that it was productive of more harm than good, did not by so doing "settle" an immediate value, but gained a new one. He might even reconsider the matter, come to believe that after all the parade was on the whole a good thing, and feel a liking for it. He would then experience a third immediate value in relation to the same object of consideration.

I believe, however, that the difference of opinion on this point between Professors Bush and Dewey is chiefly one of standpoint. Any time distinction between values may be regarded from either of two angles. Professor Bush thinks of valuing from the standpoint of the individual who values. Every act of valuing, at the moment of occurrence, is a present act, but there is a distinction between immediate and contributory values by which the former, given as good or bad, find their whole meaning in the present of the valuing individual, whereas the latter are referred by the individual to some future act. Professor Dewey regards valuing from the standpoint of an observer. He considers a value instrumental only when it becomes justified as such in the course of experience. He applies the same thought to immediate valuation. In view of the confusion arising from this diversity of standpoints, it seems to me to be wiser not to press the time distinction as an elementary difference between immediate and contributory values.

Thus far I have tried only to clear the ground of metaphysical assumptions and undesirable distinctions. Now that two distinct

classes of values have been differentiated, we may inquire where we are to go to obtain the elements of an empirical account of values. Where if not chiefly to psychology? We have seen that values and valuation are never apart from the bias or interest of a living creature. We shall not discover the nature of values by exclusive consideration of objects and their effects, or acts and their consequences, but by consideration of the relation of living creatures to objects and acts which are valued. Furthermore, in an empirical account, we must not fall into the snare pointed out by Professor Dewey of assuming that values are somehow all *given* to conscious activity in advance, for then we should be led into transcendental speculations which are wholly metaphysical in character. We must rather regard them for what they are in experience, namely, relations of living creatures to objects and acts.

It might be urged that instead of a psychological account we should undertake a classification of various types of value relations. It is easy, for instance, with the use of the nomenclature of modern objective idealism and of neo-rationalism, to describe contributory values as triadic, immediate values as dyadic, relations. But while this is a useful task in later study, it fails to mark that which will distinguish triadic and dyadic relations of value from other triadic and dyadic relations. Moreover, it takes no account of the different manner in which the term "living creature" enters into relations of the two classes of values. An object or act remains the same, however it be valued; if there be a fundamental difference, it must occur in the term "conscious activity." And when we seek the determining factor in some difference of relation to conscious activity, we are led to psychology.

Of late years the tendency among psychologists has been strong in the direction of treating conscious activity as unitary, rather than as split up into a number of "faculties." There is current a morbid fear of using language that suggests the notion of a "consciousness" which is a container, holding three quarts of faculties. We must avoid this pitfall, but we need not go to the other extreme of denying that there are different aspects of conscious activity, each of which, while never present without the others, is yet distinct in character. Cognition and feeling are examples of such aspects of conscious activity. There is never the faintest feeling from which cognition is wholly absent, nor is there ever a "pure" thought which is unattended by a fringe of feeling. And yet feeling is not thought; the two are quite distinct functions of conscious activity.

Now I believe that the psychological basis of immediate values is

to be found in the aspect of feeling, and that of contributory values, in the aspect of cognition. This assignment follows from empirical observation. For what words do we employ when we speak of an immediate value? Do we not use "like," "dislike," "desire," "wish," "demand," "want," "love," "hate," *etc.*? These words all have an emotional connotation, predominant over the cognitive and will aspects of consciousness. On the other hand, when we speak of an instrumental value, we declare that an object or act is "good for something." The pen is good for writing; apples are good for food. In thus relating objects or acts to other objects or acts, the feeling aspect is at a minimum; the mental operation is chiefly cognitive, descriptive rather than appreciative. I may consume a custard in the belief that it is good for nourishing my body, at the same time that I heartily dislike or am quite indifferent to its flavor.

Empirically, therefore, it is possible to establish the feeling aspect of conscious activity as a term in immediate value relations, and the cognitive aspect, as a term in contributory values. A thorough study of values on this psychological basis and in connection with biological facts is productive of a theory of the interrelations of values which is wholly empirical in its nature. In this paper, I can but hint of its application to knowledge, a portion of the discussion which has proved especially difficult of reconciliation in the articles of Professors Bush and Dewey.

II. THE RELATION OF VALUES TO KNOWLEDGE

Both Professor Bush and Professor Dewey assume that immediate as well as contributory values have to do with judgment. The former regards immediate values as "the premises of specific value syllogisms;" the latter disputes this assertion, and speaks of "settling a determinate like and dislike." Both of these writers apparently believe that in order to value immediately one must *know* that he values immediately. I believe that it is because of such an assumption that many of the tangles of value philosophy have arisen. I shall endeavor to show that it is not necessary to judge when we value in either an immediate or a contributory fashion.

First we may take the case of contributory values. Suppose that a man, while plowing a field for cultivation, meets with a great stone which he can not lift or remove. Looking about, he sees a dead branch, takes it in his hands, places one end under the stone, and with the branch as a lever rolls it to one side of the field. It is quite valid to say that the branch and the force exerted by the man were the chief cause of the moving of the stone. But, as Professor Bush points out, when the interest of a living creature enters into a causal

situation, we distinguish the situation from one where causality alone is present by calling it a value-situation. We therefore say, more properly, that the branch was valuable to the man for the purpose of moving the stone, and we speak of the branch as of contributory value to him. In this case, however, the man did not necessarily make some such judgment as, "I can move the stone with this branch." His action was the outcome of a cognitive progress, but cognition did not necessarily reach to judgment before he performed the act. He may have experimented in hit-or-miss fashion in many ways before he found a useful means. *After* the act, he may have made a judgment based on his past experience, such as, "A branch is a good thing for moving a stone." That he may at some past time have made a similar judgment, and that he *might* have been led to the action after making such a judgment, are quite irrelevant to the fact that he actually did make use of the branch without judging. In the hypothetical instance, he has verified a contributory *value*, but not a *judgment* of contributory value. Granted that he used perception, some memory, discrimination, and other elementary cognitive processes, he yet did not *judge*. But inasmuch as the act itself was the employment of a means to an end that interested a living being, we must not refuse the title "value" to it, but we must say that the branch was of contributory value to him in the act itself, even though he made no judgment of what he was going to do. Whether the cognitive process flowered into a judgment before the act is immaterial to the presence of the contributory value.

It is thus evident that contributory values, demanding only the presence of a living interest in a means to an end—which may be satisfied with much less than judgment—do not require a judgment to bring them into existence. They do require elements of cognition, for cognition is their psychological basis, and interest in a means to an end can not exist without it. In the great majority of cases where we use objects or acts for some end, the logical status of the situation is not formulated consciously in judgment. I sit down to write a letter, but do not first say to myself, "My pen is good for writing; the paper is good to write upon." I would be more likely to make such judgments if I were questioned about my use of pen and paper, or if I found some difficulty in using these media. And since the term "value" is not to be restricted to the conscious activity of human beings, but is to be used of all living creatures where interest is possible, we may say truly that twigs are of contributory value to birds in building their nests—assuming, of course, that animals are not unconscious automata, but that they are possessed of rudimentary cognitive processes.

Immediate values also are not dependent for their presence upon judgment. I have argued that their psychological basis is to be found in the feeling or affective side of conscious activity. The relation which constitutes an immediate value, therefore, is a relation between an object or act and the feeling side of conscious activity. So far as immediate value is concerned, any elements of cognition in conscious activity are to be left out of account entirely. I like the taste of peaches. By my very feeling of liking, the peaches become of immediate value to me. Smoking and playing tennis are acts which I enjoy. They are therefore of immediate value to me. It is not necessary for me to formulate any judgment such as, "I like peaches" in order for me to enjoy their taste. Just in so far as there is present the feeling of liking, there is also present the immediate value.

This simple way of distinguishing between immediate and contributory values makes it possible to avoid many false complications. One of the chief sources of confusion in value philosophy has arisen from the fact that it is possible to make judgments of immediate values. It is supposed by some writers that, because I can talk about my likes and dislikes, the judgments that I may make about them have to do with the actual values themselves. This I emphatically deny. To make the matter clear, I may choose an example. An individual says, "I like peaches." We must separate carefully several elements of the situation where this judgment is made. First, there is the act itself of judging. This element, which, as I understand him, is what Professor Dewey would call the "functional" aspect of judgment, is to be considered and interpreted, in terms of value, in connection with judging in general. I hold to the view of Professor Dewey that all the cognitive processes are functionally instrumental in character. Thus the *act* itself of judging will be of contributory value to the individual. Secondly, there is to be considered the *content* of the judgment. This content may itself be of contributory value. Just to what degree this will be true will depend upon its future usefulness. Perhaps the individual spoke the words in a company. The result may be that when he again visits these friends they will give him peaches for desert. Thirdly, we must take account of the fact that the individual expressed in judgment a fact of immediate value. This will mean no more than that between the peaches and the affective side of his conscious activity there is a relation of immediate value. Provided the liking was there, the fact of immediate value would also be there, regardless of whether he made a judgment concerning it.

III

From the above discussion of the elementary nature of values, it may be seen that the adoption of such a psychological basis of values opens up a broad field of investigation. First, there is the problem of the origin of values. When does an individual begin to value? Or, in other words, when can we say that more is present than causality in the relation of a living organism to its environment? These questions demand biological, as well as psychological treatment.

Again, another important branch of the subject has to do with the interrelation of values in respect to knowledge. Here, distinguishing between standpoints of the individual and of an observer, we must determine what values are related to each standpoint, and how the individual himself may, in the course of evolution, come to observe by making his own judgments. Interesting questions also arise as to the values of true and false judgments. It is susceptible of proof that some false judgments are of contributory value.

Another fertile field of investigation has to do with the interrelation of immediate and contributory values in the experience of a mature individual. Since conscious activity is always both cognitive and affective, objects and acts are valued at the same time in both an immediate and a contributory way. Due to this fact are many interrelations of coexistent values. This topic also demands biological treatment, and a consideration of the relation of man to his environment in terms of value.

Finally, when an empirical theory of values has been developed, it is desirable to make a careful analysis of the transcendental speculations of Rickert, Windelband, Münsterberg, and others, in order to determine just where their views diverge from an empirical account of values.

In consideration of the foregoing programme and from his own meditation on these subjects, the writer believes that the study of values, far from having been completed in the existing literature, is yet in its youth.

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GENERAL THEOLOGICAL SEMINARY.

REVIEWS AND ABSTRACTS OF LITERATURE

Rousseau and Romanticism. IRVING BABBITT. Boston: Houghton, Mifflin Co. 1919. Pp. xxiii + 426.

There was once upon a time a classic art, inspired by men of the type of Aristotle, or even better Buddha, and one may add Christ. This art was "highly imaginative;" only this imagination was kept

within bounds by "reason," "decorum," "judgment," "common sense." After many centuries, however, the last named tried to raise its head again to put a stop to the orgy of "emotional individualism;" this movement of sound reaction crystallized and assumed the form of Neo-classicism. But Neo-classicism would not do, for this reason that it banished "fancy," or "imagination" altogether, as being—so they thought—incompatible with "judgment." Then came what Professor Babbitt calls "Rousseauism" or "Romanticism," which is a reaction against that Neo- or Pseudo-classicism. The remedy proved more dangerous than the evil; indeed this remedy was most terrible according to Professor Babbitt, who hurls to-day his fourth volume against the monster: so, if this "menace to civilization"—as Romanticism is called repeatedly—is not avoided, nobody surely can blame Professor Babbitt. The last volume is the most formidable that has come yet from the pen of the Harvard professor; but the ammunition seems to be inexhaustible, and there is no reason why this should be the last volume if the Hindenburg Line of Rousseauism still dares to resist.

Let the reader not imagine that this is a mere figure of speech. No indeed: for, after having shown Rousseau or Rousseauism as the evil force behind Chateaubriand, Musset, Hugo, Baudelaire, Renan, Goethe, Schiller, Schlegel, Wordsworth, Byron, Blake, *etc., etc., etc.* (as a matter of fact, it would be shorter to tell those who are not infected, and our author is perfectly neutral in administering his blows) Professor Babbitt arrives through Preraphaelites, Ruskin, Tolstoi, Nietzsche, Pragmatism, Neo-realism, Bergsonism, to "Kultur;" what civilization fought behind the Hindenburg Line was Rousseauism; the megalomania of the Kaiser was Rousseauism; the Big Bertha was, if not the direct product of Rousseauism, at least that of Baconianism with which Rousseauism is closely connected. "If men had not been so heartened by scientific progress they would have been less ready, we may be sure, to listen to Rousseau when he affirmed that they were naturally good" (p. 122; *cf.* 63, 64, 119, 345). Or again: "The attitude of the Romanticist to make of nature the mere plaything of his mood" is "closely connected with the dehumanizing of man by science that is reflected in a whole literature during the last half of the nineteenth century—for instance in so-called 'impassive writers' like Flaubert and Leconte de Lisle" (p. 299).

Professor Babbitt is surely an interesting case: fully 360 out of 400 pages are devoted to demolishing purposes and the forty left do not propose to offer any original doctrine.¹ The author in his de-

¹ One of the last Rousseauists, according to Professor Babbitt, is Bergson, and it is in discussing Bergson that the author's own belief comes out as clearly

structive fanaticism reminds one a little of the French poetess Mme. Ackerman, who had found all sorts of reasons for not believing in God, but could not let him go, for she would have missed him so much as a target for her imprecations; or, even more of Flaubert, who was heartily disgusted with Mr. Homais and the "bourgeois," but was so fascinated by them that he spent the best of his energies analyzing and savagely attacking them. Why he never occupied his mind with gentlemen that satisfied his own heart, is as hard to explain as why Professor Babbitt does not write books on Aristotle, or Buddha, or Christ. It must be the case of the bird flying right into the mouth of the monster snake that terrifies it and perhaps fascinates it.

It must be that. For, otherwise, one could not see how a man of the indisputable dialectic power of Professor Babbitt would use, at times, arguments so easy and so unconvincing as, *e. g.*, that of Chateaubriand, "quite overcome by his own uniqueness and wonderfulness," or Hugo "positively stupefied at the immensity of his own genius." Such eloquence may be pardonable in University Extension lectures, but produces a rather painful impression in a book meant for serious reading. Even more are we surprised to find Professor Babbitt spend so much time on the argument that "the belief that the latest thing is the best" is absurd. We could forgive Wolsley for saying in 1686: "Every ass that's romantic believes he is inspired"—in 1919 it is a waste to devote so many pages to the development of such a truism. Elsewhere we simply can not believe that Professor Babbitt did not understand that there is some beauty after all in Chanticleer's refusal to give up his faith that he can have a share in bringing about some of the light and beauty of the world. And is it not surprising that Professor Babbitt should not take *cum grano salis* Musset's "*Vive le mélodrame où Margot a pleuré*," but prefers to take the attitude of a methodist minister? Again, is it altogether fair to abuse Chateaubriand, and Rousseau, and the Romanticists alone, because they express regret at not having conquered their passions: what of Saint Paul's: "the good which I would, I do not, but the evil which I would not, that I do," or of Ovid's *Meliora probo sed deteriora sequor*—Ovid, dear to Professor Babbitt's heart?

Many, many more remarks of this kind could be added. But enough has been said with regard to the methods of Professor Babbitt—which does not prevent his book from being at times very stimulating and suggesting altogether a lofty view of life. Taking as anywhere: to the Intuitionism of Bergson, he wants to oppose "Insight" (p. 372)—"insight into the universal" if you please (p. 18). He calls his idea also "complete Positivism" (p. x); and it means the *mediocritas aurea* between judgment and fancy.

now the volume for what it purports to be, chiefly destructive, let us examine briefly, first Professor Babbitt's attitude towards Rousseau, and then Professor Babbitt's attitude towards Romanticism.

The Attitude towards Rousseau.—Professor Babbitt admits that some people may draw wrong impressions from his statements, and acknowledges that Rousseau was perhaps not quite so bad as readers may gather from his book. This is not enough. Make all allowances you will to the requirements of clear argument, all the allowances you wish for some heat in discussing, Professor Babbitt has lacked fairness to a point not permissible to a scholar. In the first place, when he refers to the writings of Rousseau, Professor Babbitt does not make the slightest distinction between statements in which Rousseau meant to express his philosophical convictions, and those in which he regards himself as a man and speaks of his private likings and personal tastes. For instance, in quoting the *Confessions* and the four *Lettres à Malesherbes* Professor Babbitt is not the conscientious scholar we would expect him to be when he consistently ignores the fact that Rousseau wrote partly, and even chiefly, to explain his case in the famous quarrel with the Encyclopedists, and his difficulties in having *Emile* published. Even suppose Rousseau was the worst rascal imaginable, and that he and not his enemies had tampered with written documents, it would still be illegitimate to draw on his character to abuse his doctrine—and this is what Babbitt does all the time when he takes passages in the *Confessions* in which Rousseau explains his life, as illustrating Rousseau the philosopher. Has Rousseau not a right to say that he is different from others? Since Professor Babbitt grants that Rousseau himself insists that this being different does not imply superiority (p. 50), why does Professor Babbitt speak of Rousseau's "gloating sense of his otherwiseness"? Can this passionate language to attack a man for his passion ever inspire confidence to an impartial reader? Moreover does not Rousseau rather warn others not to be as he was; does he not blame the absurd education which his father gave him and which made him the romantic dreamer that Professor Babbitt reproaches him for being? Furthermore, because Rousseau was a dreamer at times, and wrote he liked revery, Professor Babbitt has no right to infer that Rousseau advocated a substitution of meditations by dreamery as a principle of life or even as a principle of philosophy. On page 375 Professor Babbitt says: "Rousseau would have us get rid of analysis in favor of the heart!"—and then he himself speaks of different meanings of the word heart: why does Professor Babbitt take the heart of Rousseau as a romantic heart in the sense he, Professor Babbitt, imagines it to be, and not as Rousseau himself defines

it, limits it? Is it true or is it not true that the whole *First Discourse* which brought fame to Rousseau, is directed against the lack of restraint of his contemporaries (against the "romanticism" of his contemporaries, according to the definition of Professor Babbitt) in favor of Roman Virtue? Is it true or is it not true that in the *Nouvelle Héloïse* Rousseau devotes about two thirds of the book to condemning the vagaries of a youthful and romantic passion, the passion of Saint Preux for Julie? But Professor Babbitt seems to have seen only the "*âcre baiser*" (p. 216); the only real difference the writer can see between Rousseau and Professor Babbitt in this matter is that Rousseau is the more puritanic preacher of the two. Again is it true or is it not true that *Emile* is all directed against the influence of the romantic society of the time and toward the development of perfect self-control of the child's nature? Is it true or is it not true also that the whole of the *Contrat Social* is an awkward attempt to guard men from falling a prey to the natural and romantic desire for absolute individualism? Professor Babbitt has foreseen at least some objection here to his statements. But listen how he meets the difficulty; this passage is quite typical of Professor Babbitt: "Rousseau transforms conscience itself from an inner check into an expansive emotion [which of course is not true at all]. While thus corrupting conscience in its very essence he does not deny conscience, *on the contrary, he grows positively rhapsodic over conscience and similar words . . . in short Rousseau displays the usual dexterity of the sophist in juggling with ill-defined terms*" (p. 179—the italics are ours). Now, if we knew not that Professor Babbitt is just absolutely blinded with his preconceived idea of Rousseau we would have no other word but bad faith to define such a statement. As a matter of fact Professor Babbitt knows well that Rousseau is not a mere "juggler" or a "sophist;" otherwise would he not feel it to be below his dignity to devote so much energy in attacking him? And indeed, if one comes right down to facts, I think Rousseau's calvinism (for that method of Professor Babbitt's of ignoring Rousseau the calvinist and recognizing only the romantic traits is untenable) is about as near Professor Babbitt's puritanism or classicism as any ethical doctrine can be.

If Professor Babbitt had told us: "People who read Rousseau are more interested in his presentation of the romantic point of view and ignore his refutation of it," we would say: "Well and good; it is true!" But then why not give Rousseau the benefit of the misunderstanding, and merely say that Rousseau may be responsible for that misinterpretation because Rousseau did not make his point clear enough? But to say that this was Rousseau's own point of view is

not fair. Why does Professor Babbitt not remember that men like Faguet and like Dide and like Vallette and like Masson lay stress on that calvinistic side of Rousseau and make him the worst foe of individualism that ever was. Rousseau did attack, of course, the false decorum of neo-classicism (just as Professor Babbitt in his Chapter I.), but to make this mean that he advocated the wild romanticism described by Professor Babbitt is like saying that because a man is not an automobile manufacturer, he is selling shoes. To sum up: if Professor Babbitt is right in saying: "One should not, like Rousseau and the Romanticists, judge of decorum by what it degenerated into" (p. 24), we must say just as emphatically: "One should not, as Professor Babbitt, judge of Rousseauism by what it degenerated into."

Professor Babbitt's Attitude towards Romanticism.—To get right to the heart of the matter, we will say that Professor Babbitt has failed in a remarkable degree to make use of what we call nowadays historical sense. His definition of Romanticism is given on p. 4: "A thing is romantic when it is strange, unexpected, intense, superlative, extreme, unique, etc. [This "etc." is quite interesting.] A thing is classical, on the other hand, when it is not unique, but representative of a class." The classical being reasonable in Professor Babbitt's opinion, the romantic may be conceived as either above or below reason. Professor Babbitt never considers any possibility of Romanticism being anywhere but below; it is "instinct" (p. 147),² and Rousseau and Romanticism are therefore condemnable. Now first of all, let us not forget that the notion of "reasonable" is subjective; for, although abstractly speaking it may be impersonal, as a matter of fact the reasonable never comes to us except as conceived by some individual; and therefore the "reasonable" of the classics, or of Aristotle—or of Professor Babbitt—may be legitimately thought of as surpassable. This being the case, we are inclined to think that Professor Babbitt would have been well inspired in following Goethe's saying (recalled by himself on p. 32), "Voltaire is the end of the old world, Rousseau is the beginning of the new." How unwarranted for a man, because he does not believe in Romanticism, to quietly say to one century and a half of human history: "There is no such thing as romantic morality" (p. 217). This beats all fanaticism from Mohammedism to Inquisitionism and Prussianism and Bolshevism. Even if one disapproves of the new world as it turned out to be, it is strange policy to try, as Professor Babbitt seems to do, to deny the very possibility of a new order of things. Says Professor Babbitt:

² Of course Rousseau used the word *instinct* in connection *e. g.* with moral conscience; but in his time the word had by no means the low materialistic connotation which it has to-day and of which Professor Babbitt takes advantage.

"Ovid sums up the classic point of view when he says one can not desire the unknown (*ignoti nulla cupido*)" (pp. 92-93). With all the reverence due to Professor Babbitt's authority, this is a very questionable statement. Why not an *ignoti cupido*? Did not St. Paul in Athens testify to some Unknown God, and was not St. Paul justified in announcing a new world with Christ? He was the romantic of his age, was he not? Now there can be no doubt that by the end of the eighteenth century there was started a new great *ignoti cupido*, which no decorum, or reason, or common sense could stop, and which must be added to the Aristotelian *gnotum*, and even to the Christian *gnotum* as far as this had developed—an *ignotum* which gradually is taking a more definite form from Rousseau to modern times. Even Professor Babbitt must admit that it exists since he attacks it; and if so would it not be altogether wiser to try to understand what there may be in it and then guide the movement, rather than to deny its right to existence. It takes more dogmatism than we care to refute here, to maintain that humanity went backward owing to the advent of Romanticism. The so-called cult of the Ego is taken in a most narrow sense by Professor Babbitt; he is blind to all that is not disagreeable flavor and vanity in it—a flavor which is very often, but not necessarily, associated with it.

If one does not choose to assume *only* the critical attitude, one may say that Romanticism has brought two distinctly good things. The first is the world reverence for the superior individual egos of men like Byron, Chateaubriand, Lamartine, Vigny, Musset, etc. We would be quite willing to adopt the "classic" *consensus gentium* to support the view that posterity was right in admiring these geniuses for their greatness, and Professor Babbitt wrong in abusing them for their shortcomings. The second thing—which is even far more important: Romanticism taught us reverence for the impersonal ego, *i. e.*, the doctrine that, morally speaking, all the egos ought to have the same opportunities to show, whenever there is in them something worth showing. Rousseau and Victor Hugo specially were inspired by a profound sense of justice when they maintained that the social order was unduly crushing many excellent people; and Professor Babbitt is, I fear, terribly wrong when he thinks that Kaiserism was the product of Romanticism: it looks to most of us as a shocking anachronism; Wilhelm Hohenzollern was what we know, not because of, but in spite of Romanticism—and the whole world rose filled with Rousseauistic and Romantic fury against that revival of ante-revolutionary cynicism. Professor Babbitt pokes fun at Victor Hugo's exaggeration, and the exaggerations of all the Romanticists who idealized bandits and the scum of society. But this was simply an emphatic, dramatic, powerful affirmation of this theory, almost new

at the time, that men must be judged at their actual value, not from their appearances, their social rank, or their riches. The whole gallery of V. Hugo's "*monstres*," with their saving divine souls, the bandit, the convict, the courtesan, the grand style criminals, down to the physical monsters like Quasimodo, Bug Jargal, Han d'Islande—as opposed to the corrupt ecclesiastics, the fiendish noblemen, the despicable kings—were characters necessarily overdone in order to bring home to the new society the romantic gospel; just as Prometheus, and Antigone, and Le Cid were overdone classical characters, in fact "monsters" in the broad sense which H. Hugo had in mind when he said that the creation of monsters was a "satisfaction due to the infinite." Professor Babbitt may heap *Rousseau and Romanticism* on top of *The New Laocoön*, and *Masters of Modern Criticism* on top of *Literature and the American Colleges*, like Pelion on top of Ossa, but he will not displace Jean Valjean of the *Les Misérables* as impersonating the new gospel of Romanticism and of the world; and if one talks of "menace to civilization" by Rousseau and Romanticism, all depends upon what is meant by civilization. We may not admire the prostitute or the thief, but we must be willing to admit that old-fashioned social justice has too often forced some men to steal, that modern penitentiary systems still exist which prevent regeneration, while the system of wages has to this day forced many women to the street. Would it be too severe to say that Professor Babbitt, running away from Romanticism so as not to hear the plea of the many unfortunate "romantics," reminds one of Romain Rolland taking refuge in Geneva to tell the French that they were wrong in not extending their hands to the Germans and that, by resisting them, they prolonged the hatred between nations? All the books of Professor Babbitt will not convince us that the modern world was wrong when it was willing to favor perhaps a few real bandits, or a few Madam Bovarys, or a few Joseph Prudhommes (or even the vanity of Chateaubriand or Byron) for the sake of trying to obtain for many who were crushed by society, the right to live a higher life.

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JOURNALS AND NEW BOOKS

PSYCHOLOGICAL REVIEW. May, 1919. *A Schematic Outline of the Emotions* (pp. 165-196): JOHN B. WATSON.—Hard and fast definitions are not possible in the psychology of emotion, but formulations help to assemble facts. A formulation which will fit a part of the emotional group of reactions may be stated as follows: An emotion is an hereditary pattern-reaction involving profound changes of the bodily mechanism as a whole, but particularly of the

visceral and glandular systems. *A Classification of Reflexes, Instincts, and Emotional Phenomena* (pp. 197-203): HOWARD C. WARREN. — Tables have been compiled of human reflexes, human instincts, instinctive tendencies of man, human emotions, human dispositions. The tables are offered for comment and criticism and as a possible working basis for future investigation. *Affective Psychology in Ancient Writers after Aristotle* (pp. 204-229): H. N. GARDINER. — A review of the references to affections in the ancient writers after Aristotle is given showing many illustrations of it. *The Nature of Mentality* (pp. 230-246): H. N. WIEMAN. — Mentality is the process by which various stimulated tendencies of the organism are adjusted to the execution of a series of movements resulting in adaptation to the environment. Where the process of organization results in a final system which can be fulfilled in execution, we call the organizing process instrumental mentality. Where the process continues indefinitely, never developing any system which can attain final satisfaction and thereby bringing itself to an end, we call the process creative mentality.

Ritter, William Emerson. *The Unity of the Organism, or the Organismal Conception of Life*. 1919. 2 vols. Pp. 329; 408. \$5.00.

NOTES AND NEWS

DR. J. E. SPINGARN has sent us the following note:

Giovanni Castellano's *Introduzione allo Studio delle Opere di Benedetto Croce: Note Bibliografiche e Critiche* (Bari: G. Laterza & Figli, 1920) will be found of the very highest usefulness as an introduction to the study of Croce's work. The book is divided into three distinct parts, of which the first contains a complete bibliography of Croce's works and the second a very full list of the critical literature about him. The third and by far the largest part of the book is devoted to a discussion of the thirty or forty most important aspects of Croce's thought,—his conception of philosophy as the methodology of thought, his æsthetic theory, the practical basis of error, the economic moment of thought, the contemporaneity of history, the unity of the theoretical and the practical, the interpretation of Hegel, the theory of law, the reform of literary history, etc. In each case Croce's point of view is brought out by the citation of some passage from his critics; and the explanation or rejoinder (we are told by the author) is virtually given in Croce's own words. Readers of this JOURNAL will be especially interested in the numerous citations from articles which have appeared in these columns, and which are made clearer in their relations to Croce's thought by the interpretations that appear in this very interesting book.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

RITTER'S ORGANISMAL CONCEPTION OF LIFE

RITTER'S *Unity of the Organism*, the first of the three titles listed below,¹ is a work which calls, I think, for special attention from students of philosophy. The work embodies, on the one hand, a notable contribution to the philosophy of the organism, from the point of view of a fairly extensive acquaintance with the literature of philosophy; and at the same time an acutely critical review of the facts and tendencies—with attention centered upon the facts—developed in the past generation of biology. The two smaller volumes throw very interesting side-lights upon Ritter's philosophy. They are full of suggestions for the philosopher, but they strike one as desultory and unfinished. *The Unity of the Organism* bears the marks of years of thoughtful preparation. Ritter is everywhere agreeable reading. His style is frankly and easily personal, free from all scientific pedantry, and his criticisms, severe and outspoken, are always good-natured.

The organismal conception of life is developed by contrast with the various "elemental" theories so prominent in the biological thought of twenty years past. Under elemental theories Ritter includes not only those which regard the organism as a mechanical aggregate of elementary units, *e. g.*, as a mosaic of cells, but any theory which, like the germ-plasm theory, or the chromatin theory of inheritance, treats one "element" of the organism as more real or more determining than any other. To all such Ritter opposes "the unity of the organism," the determination of everything by "the organism as a whole;" which is not a name, but a thing, not a group, but an individual; at least as real and as determining in itself as any distinguishable "element."

¹ *The Unity of the Organism or the Organismal Conception of Life*. WILLIAM EMERSON RITTER, Director of the Scripps Institution for Biological Research of the University of California, La Jolla, California. Boston: Richard G. Badger. 1919. 2 vols. Pp. xxv + 806.

The Probable Infinity of Nature and Life. Three Essays. WILLIAM EMERSON RITTER. Boston: Richard G. Badger. 1918. Pp. 164.

The Higher Usefulness of Science and Other Essays. WILLIAM EMERSON RITTER. Boston: Richard G. Badger. 1918. Pp. 146.

Thus the unity of the organism comes to mean, even more distinctly, the uniqueness of the organism, and, in the last analysis, of the individual organism. Ritter's idea, for which he claims the support of histology and biochemistry, is that every tissue and every chemical reaction, whatever general features it may have, is also characteristic, not only of the species in question, but of the individual. There is no protoplasm, he maintains, but only *protoplasms*. And this means, carried further, that the unity of the organism is the unity of the *living* organism. Nothing is more insistently emphasized throughout the two volumes than the difference—a difference that must be conceived to extend to every detail of composition and structure—between the living and the dead animal. That the zoologist of to-day, a laboratory zoologist, is mainly a student of dead animals, is food, not for humor merely, but for thought. The Cartesian problem of mind and body seems to be based upon the dead body; as commonly conceived, it is a problem of mind and corpse. And biochemistry—from which, indeed, Ritter derives his own conception of the organism as a chemical laboratory and as a chemical element—is also mainly an analysis of dead animals, or at best of the dead products of the living. "The naturalist accepts not only without hesitation but with eagerness and gratitude the chemist's report on what he *is able to get out of the organism*," but, "knowing as he does something of the methods by which the chemist gets at the chemical substances of organisms," he can not suppose that the chemist's reports "come near setting forth what the organism *actually is*."

Ritter speaks here as "the naturalist." This term embodies comprehensively his personal philosophy and his conception of the scientific attitude. Speaking always as a scientist, he holds that the scientific attitude is represented more truly by Darwin than, say, by Loeb; by contact with nature in the field than by mere laboratory analysis; and, incidentally, by breadth of view than by narrow specialism. Elementalism, issuing in a mechanical and materialistic theory of life, is the consequence of supposing that the products of the laboratory are exclusively real. The result is not science, but "metaphysics."² Science in the true sense is based upon a comprehensive observation of fact. And therefore—the laboratory preju-

² Ritter supposes that his own method is free from metaphysics. Yet as a programme for description he postulates the distinction between attributes of individuation and attributes of relation (*The Probable Infinity of Nature and Life*, p. 72), and all of his thinking seems to imply that the world is made up of things and their relations and not merely of groups of elementary attributes, or "phenomena"—clearly a metaphysical proposition. To my mind it is about as possible to eliminate metaphysics from thought as to eliminate respiration from life.

dice to the contrary—nothing is more worthily or more importantly scientific than the work of description and classification.

One is prepared, then, to learn that, as a Darwinian in science, Ritter is an Aristotelian in philosophy. He makes the suggestion—very fruitful, I think, for an interpretation of the Aristotelian metaphysics—that Aristotle was primarily a zoologist; and I should say that Ritter's whole work is, both in the aspects emphasized and in the difficulties neglected, a characteristic expression of the Aristotelian point of view in science. The keynote is a radical empiricism, recalling in its freedom from logical and scientific convention that of William James, which will decline, if possible, to treat any aspect of experience as less real than any other. It is radical empiricism that he opposes to elementalism. For he is equally opposed to vitalism. In Ritter's view Driesch's entelechy (in spite of the derivation from Aristotle) is no less an abstraction than Weissmann's germ-plasm. It represents an attempt to explain the phenomena of life by something less than the organism as a whole.

It is not easy to convey in summary the effect of an argument involving such a mass of detail and so much shrewd suggestion. Among the elemental theories refuted are: the Weissmann theory of an independent and all-determining germ-plasm; the theory which makes the organism merely an aggregate of chemical substances and processes; the theory of a universal protoplasm; the cell-theory, which explains the organism as a mosaic of "simple" cells; the chromatin theory, in which the chromatin of the chromosomes is treated as the sole "hereditary substance;" the theory that internal secretions are "formative stuffs;" and the Loeb theory which conceives the nervous system as an aggregate of originally independent, chemical "tropisms." Ritter is not slow to recognize the advances in biological knowledge which have been stimulated by these elemental hypotheses; his point is that none of the elements can be regarded as the "key" to the organism or in any exclusive sense as a carrier of heredity. It is the "nothing but" aspect of the elemental theories which he mainly contests. And the very idea of a "carrier of heredity" he is disposed to condemn as a superstition akin to phlogiston. Granting that a starfish produces an egg and that the egg gives rise to another starfish, does any biologist think that only a sufficiently powerful microscope is needed to enable him to see something in the egg "carrying" all of the innumerable characters of the adult starfish? What he might expect to see would be certain structural features peculiar to the starfish at the egg-stage of the individual's life; which would then disappear and be supplemented by other features peculiar to the embryonal stage—and so on (I., 224). In brief, re-

garded as an observed fact, heredity—which, by the way, applies not to adult characters solely but equally to those of every stage—is a process of transformation, not of transmission.

To the Weissmann theory which, on behalf of the continuity of germ-plasm from generation to generation, seems to call for the independence of the germ-layers and the origination of sex-cells in the outer layer, he opposes, among other observations, the appearance of sex-cells in the endoderm of hydroids; and Weissmann's attempt to account for this by "migration" he characterizes as a curious "example of the effect on the observing powers of the germ-plasm type of speculation." To the chemical theory, which makes the organism a chemical *product*, he replies by pointing out that each organism is a chemical *laboratory*, manufacturing its own specific product—as shown by differences of odor in plants and animals, by Reichert and Brown's results on hemoglobin, by the precipitin reaction as between bloods of different animals, by the "comparative chemistry" of the sperm of fishes, of milk, of digestive enzymes, etc. His extensive and (to the outsider, at least) very instructive examination of the cell theory is devoted to showing, mainly through a discussion of observational evidence, that the cell is peculiar to the organism and always the product of an organism, never a prior and independent unit; that the unicellular organism is still an organism (its "simplicity" being an exaggeration on behalf of a supposed pedagogical convenience), and the egg an organism in the unicellular stage; and that the attempt to treat protista as cells results only in showing, if anything, that beings much smaller and considerably simpler than cells existed long before cells.

The most extended treatment is accorded to the chromatin theory; which supplants the cell theory. Adopting Castle's definition of heredity, which defines heredity simply as "organic resemblance based upon descent," Ritter does not deny that "*to some extent* resemblance between ancestors and progeny is *in some way* connected with chromosomes." Not many of the major theories of biology are more securely established than the chromosome theory. His contention, however, is—based upon a lengthy examination of the evidence from protozoans, from the metazoan germ-cells, and from somatic histogenesis in multicellular organisms—that the cytoplasm, as well as the nucleus as a whole, is no less responsible; and that the inheritance materials of germ-cells are initiators rather than determiners of heredity.

The same mode of argument is applied to the theory of internal secretions. For example, as bearing upon the metamorphosis of the tadpole into the frog, "the truth appears to be that thyroid sub-

stance is organ-forming in much the same sense that water is organ-forming for the leaves, flowers, and fruit of the squash vine. . . . That is, an under-supply of water has an effect upon immature plants similar to that of an over-supply of thyroid substances upon immature frogs, namely, that of retarding growth and hastening metamorphosis. . . . Thyroid substance is organ-forming only through being organ-transforming" (II., 145). Again, his point is, with Sherrington against Loeb, that the simple reflex arc is an abstraction. "No one should be beguiled into the notion that the readily observed facts of ontogeny of the nervous system, the various processes, dendrites, and axones, do actually grow out on nerve cells and bring cells into connection with one another and with receptor and effector cells, and that a functional coordination is thus finally reached [which] does not exist in any way or degree in the early stages" (II., 169). "Every specific act of every part of the nervous system is primarily in the interest of some other part and function of the organism than itself" (II., 184). Even the antagonisms between reflexes (which, by the way, never lead to the disruption of the organism) are "constitutive of the normal organism. Even the most pronounced of them are yet in the interest of the organism as a whole" (II., 324). In passing from neural to psychical integration we find him—precisely in line with his general position—with the apperceptional as against the associational, or elemental school, standing for the rôle of mental activity in the development of thought.

Ritter's constructive argument, the main lines of which have been already suggested, consists chiefly of evidence for integration, *i. e.*, the influence of the organism as a whole in the production of each part, distinguished under the heads of growth integration, chemico-functional, neural, and psychical integration. Very interesting is the chapter on growth integration, in which he points to the existence in all growth of graded series of parts or processes (illustrated most simply in the tapering of a leaf or of the skeleton of a python) and calls to his aid Child's demonstration of "axial metabolic gradients," *i. e.*, gradients in rate of cell division, size of cells, rate of growth, and rate and sequence of differentiation, which are definitely related to the axes of the individual or its parts.

But the most striking feature of the organismal theory is the organismal conception (admittedly hypothetical) of consciousness. Among the several elemental theories, that with which Ritter seems chiefly concerned to come to terms is the chemical theory. That every organic process is a chemical process is treated as indisputable. But if so, how are we to attribute a real unity, implying individual-

ity and creativeness, to the organism as a whole? A reply already given is that the organism is itself a chemical laboratory; not a product, but a source of chemical change. Along the same line, the organismal theory of consciousness holds that each living organism has the value, chemically, of an elementary substance. To make the meaning of this clear, Ritter explains that fundamentally, from its beginnings in alchemy, chemistry is a study, not of the composition of things, but of their transformation. Hydrogen unites with oxygen so as to produce new attributes not prefigured in either element. Hydrogen is thus creative. And thus also the organism. From the chemical standpoint, the fundamental aspect of all life, as conceived by Ritter, is the transformation effected by the organism through contact with the gases of the air, as typified by respiration. In this process are created all of those attributes, physical or mental, which we call "life."

Such a creative transformation, for example, is knowledge. Ritter quotes the question raised by Hume: how can I infer the "secret power" of nourishment from the sensible attributes of bread? Or, from one instance of nutrition how can I infer another? What is the "medium" of inference? Ritter replies that the medium of inference, and the source of the "secret power," is the individual organism reacting in an enormous complexity of ways—mostly revealed by natural science since Hume—with the respiratory substance it takes in (II., 301). And thus he accords a certain justification to the Cartesian theory of innate ideas, in the sense, however, of hereditary potentialities. This is not to say that knowledge is merely subjective—no more, perhaps, than water is subjective to hydrogen. Knowledge is a process of transformation involving both subject and object, both knower and known.

Ritter calls this a conception of "consciousness." What it undertakes to make intelligible is the possibility of individuality and creativeness in something chemically constituted. It seems to me, however, that the question confronting a theory of *consciousness* is rather this: When hydrogen effects, with oxygen, a transformation into water, we can ask how it *looks* to the observing chemist; we can not (in the view of science and most common sense) ask how it *feels* from the point of view of hydrogen. Of any human activity we can ask both questions. How are we to explain the difference? Ritter's reply would be, I think, a refusal to assent to the current separation of the "inner" and "outer" aspects of life. At least it seems that, throughout the organic world, an inner aspect exists for every outer. For "the psychical aspect" is not restricted to the nervous system: it is everywhere "latent," at least, in "the breath of life," that is,

wherever there is a chemical reaction of an organism with the gaseous constituents of the air (II., 303). But the whole organismal conception seems to imply an essential continuity of organic and inorganic. All creativeness, Ritter tells us, chemical creativeness with the rest, is known "through being in our own deepest natures creative" (II., 295). And he more than once derides the scientist who thinks that the epithet of "anthropomorphism" is an answer to an argument. It would seem, then, that the organismal conception points in the direction of panpsychism. At any rate, as against the idea that the higher stages of evolution contain "nothing but" what was found in the lower, Ritter holds that the higher are a fresh revelation of the nature of the lower.

And thus when we ask how the behavior of the organism as an element is to be related to the elements found in it by chemical analysis—how the "chemistry" of social and spiritual life is related to the chemistry of the laboratory—the answer is that "the psychic activities of men, particularly the imagination and the emotions, reveal the fact that carbon, oxygen, nitrogen, and the others, are infinite as to their attributes of relation, exactly as water reveals a few attributes of relation of oxygen and hydrogen, and as table salt reveals a few attributes of relation of sodium and chlorine." At least it is true "that we have experimental evidence of their possessing a vast amount and variety of energy, and no ground whatever excepting the limitations of our momentary laboratory information about the substances, that the number and measure of their energies is limited."³ If, in other words, the organic phenomena are chemical, and if also they are really organic and spiritual activities of real individuals, then it must be that the chemical properties of substances are only very partially revealed in the chemical laboratory.

Such is the biological outcome of a "naturalistic" point of view, *i. e.*, of a thoroughgoing empiricism, which accepts as real whatever is found in observation and refuses to be bound by predetermined criteria of reality. Ritter's book suggests many questions, of which I will point to only one. Ritter calls himself, very truly, I think, a "naturalist," but he is no less insistent in claiming to speak in the name of science. With all his strictures upon current scientific theories, he writes as one who believes that the only truth is the truth of science. Now, I find it rather difficult to identify "the scientific attitude" of to-day with an exclusive regard for the results of observation. Science, like the church, may be militant or triumphant. Science militant (more in evidence a generation ago) is quite pious in pleading only for "the modern spirit of free in-

³ *The Probable Infinity of Nature and Life*, p. 124.

quiry." Science triumphant stands firmly for the "fundamental" truths, or laws (such as gravitation and the conservation of energy), established by the fathers. "Elementalism" is a case of science triumphant; it represents the claim of suzerainty on the part of the older sciences of physics and chemistry over the newer science of biology. Ritter's naturalistic logic is obviously militant. Yet he is none the less loyal to the law of conservation of energy, as a law established, seemingly, once for all.⁴

This raises the question that I have in mind: how is the organismal theory of life to be reconciled with the law of conservation of energy? It strikes me that this is the largest question that the organismal theory will have to meet, and I wonder therefore that the question is nowhere broached in *The Unity of the Organism*. In this question we have the biological version of the eternal problem of continuity and change. The organismal theory stands for the reality of growth and change—for "creativeness." The conservation-law evidently knows nothing of creativeness. All that it finds in nature is a *redistribution* of energies, elements, or what not, on the basis of a quantitative equality of antecedent and consequent. And positively it seems to reject creativeness. For any influence at work directing the redistribution towards an organic end would seem to imply some additional "energy" at work not subject to the conservation-law; and, therefore, not to be tolerated. Ritter speaks at times of the organism as if it were just such an additional agency; for example, when he is compelled to the "assumption that the organism 'taps' or unlocks energy attributes of the elements."⁵ This looks very much like the repudiated Drieschian entelechy. But the question is just this: how will the unity of the organism dispense with an entelechy, or something of the sort, and yet avoid being wiped out by the conservation of energy?

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TRUTH, VALUE AND BIOLOGY

I WAS delighted to learn from Professor Wells's article on "The Biological Foundations of Belief"¹ that he has "the habit of regarding all human questions from the biological point of view," and so has a fundamental point of agreement with me. For if he is right in thinking so, we may be able to cooperate further in the discussion of the important question of the biological control of human beliefs.

⁴ *The Probable Infinity of Nature and Life*, p. 77.

⁵ *The Probable Infinity of Nature and Life*, p. 92.

¹ In this JOURNAL, XVI., p. 259.

Long experience, however, of the possibilities of intersubjective misunderstanding among philosophers admonishes me to caution; I should like first to make sure how far this agreement extends, and in particular, whether we can agree upon the meaning of the chief terms involved. For otherwise no profitable discussion is likely to result.

Unfortunately it is just this point which, in spite of Professor Wells's assurances, still appears to me to be in grave doubt. I may illustrate my difficulty from Professor Wells's accounts (1) of the "Pragmatic Fallacy," (2) of the meaning of truth, and (3) of the relation between logic and psychology.

1. In his first paper² Professor Wells gave the name of *Pragmatic Fallacy* to what he considered a "confusion of truth and value," and appeared to me to illustrate a tendency, still unfortunately common among philosophers, to regard a pragmatist as an imbecile who is incapable of understanding the simplest usages of popular language, and who can therefore be triumphantly confuted by showing that, until he commenced to undermine immemorial usage, every one had always 'understood the words to mean' something quite different from the interpretations pragmatism now sought to put upon them. Accordingly I had to point out that what he condemned was an unconscious fusion or psychic coalescence of truth and value, which is natural to the human mind, and which the pragmatists had been the first to expose. It seemed a little hard on them thereupon to name this tendency after them, and a little hasty to condemn it utterly before examining whether there might not be good ground for it. To this complaint of mine no satisfaction has been conceded; Professor Wells still calls the tendency in question "the Pragmatic Fallacy," in spite of having a reasoned pragmatic repudiation of it before his eyes. Indeed he appears fully to justify my complaint by explaining that when he defined the Pragmatic Fallacy as a confusion of truth and value, he was *not* using 'truth' in the same sense as the pragmatists. So these unfortunates are not only required to accept, without investigation or criticism, a definition which analyzes the situation as a 'confusion of truth and value,' but also to use 'truth' in a way they have declared to be unmeaning, and finally to ascribe to *themselves* the absurdities that result from this procedure! These are terms which only a complete victor could dictate.

2. As regards the meaning of 'truth,' Professor Wells's first paper gave no inkling of what he meant by it: the second does indeed explain it, with admirable clearness, but still in a way sugges-

² This JOURNAL, XIV., p. 653.

tive of the unfortunate tendency referred to above. For I can hardly believe that Professor Wells supposes me to be ignorant that "common sense and science assert that 'truth is so,' whether or not it is known by any human mind,"³ that "in popular or common sense usage 'truth' is thought to mean simply what is so," and that "in both popular and scientific usage the truth is taken to be entirely independent of what any one may *like* to believe, or of what any one may be led to believe for 'subjective' reasons."⁴ Nor can I easily believe that *he* was ignorant that it is precisely this popular usage and the false conception of truth on which it rests, which pragmatism has set itself to challenge, and amend. But, if so, what is the good of appealing to pre-pragmatic usage in pragmatic controversy? The correctness and value of "established usage" is precisely the point at issue, and to presuppose a pre-pragmatic sense of 'truth' is merely to beg the question. Pragmatism can only be refuted, if it can be shown to disregard a sense of truth it has itself accepted.

Professor Wells, therefore, should expect to be told that science, though it starts from common-sense, is progressive, and so is capable of revising the notions it takes over; nay that even common-sense is teachable, though it is slow to learn. So if it can be made clear to science that the phraseology about 'truth,' which it has very naturally inherited from common speech, is untenable and was based on ignorance of biological, psychological, and sociological investigations, which go to show that every 'truth' in every science is necessarily conditioned by influences deriving from these sciences, every science worthy of the name will gladly take account of this enlightenment. Nor is there any reason to suppose that science would scruple to admit that the depersonalization of truth, which is so convenient for some purposes, is strictly a methodological fiction, or would demur to obey the summons of pragmatism and disallow scientific investigations into the limits of its validity; the more so that even philosophers can occasionally be found to analyze and discount their personal bias; as in the noble example recently given in this JOURNAL by Mr. Bertrand Russell.⁵

Common-sense is more inert, but even that is not so pachydermatous as to be utterly insensible of the inconsistencies and contradictions in which it finds itself involved. Among these, of course, the instability of 'fact' and the constant transformations and trans-

³ *L. c.*, p. 267.

⁴ *L. c.*, p. 268.

⁵ XVI., pp. 18-20. I should agree of course that "complete escape from personality" is impossible, but insist also that the "partial" escapes so pertinaciously advocated are one and all illusory.

valuations which the 'facts' undergo in the growth of knowledge, the impossibility of reaching any 'fact' that can seriously claim to be absolute or absolutely independent, and of sharply distinguishing between fact, interpretation, theory, hypothesis, and fiction, would be found to be relevant, and fatal to the simple-minded dogmatism of common-sense. At any rate it is perfectly futile to try to refute pragmatism by taking this dogmatism for granted as unquestionable.

3. Much the same might be said of the absolute distinction between psychology and logic. When Professor Wells declares that because "truth is depersonalized in popular and in scientific usage, truth is a logical and not a psychological matter,"⁶ "in which only propositions, theories, hypotheses are involved, while the finding of these propositions, or the attempt to find them and to verify them, is a wholly psychological matter, of which truth and falsity may not properly be predicated,"⁷ he must submit to be told that he is committing the most impossible, monstrous, and mischievous of false abstractions, against which all pragmatism is an unceasing protest, and that "a 'logic' which 'emancipates' itself from psychology will be a 'logic,' which, in repudiating its *raison d'être*, sinks to the level of a mere grammatical exercise,"⁸ because in abstracting from personality it "abstracts also from the consideration of judgment as true-or-false." It may be said further that Professor Wells himself confirms this criticism by confessing that his 'logic' is capable of recognizing only propositions. A proposition, he tells us, "is not a response. It is, first of all, a group of words, which, as words, are marks on paper or sounds in the air. Words have a meaning however . . . a proposition, in the first place, is not a psychological subject-matter; and secondly, it is of propositions that truth and falsity are properly predicable."⁹

I believe that every one of these contentions is demonstrably false; and it is precisely this conception of logic that I have accused of wanton abstraction from meaning.¹⁰ For meaning is not properly a matter of *words* at all, but of persons, and only persons can value a belief as true or false. Judgments also are the *acts* of persons, whereas Professor Wells's 'logic' knows nothing of judgments and is restricted to the propositions, *i. e.*, *forms of words*, in which their meaning was conveyed. Professor Wells recognizes of course that his demarcation of 'logic' departs from common usage—at least as far, I should say, as does the pragmatic sense of 'truth'; but he re-

⁶ *L. c.*, p. 268.

⁷ *L. c.*, p. 270.

⁸ H. V. Knox's *Philosophy of William James*, p. 83.

⁹ *L. c.*, p. 261.

¹⁰ *Formal Logic*, Ch. XXIV.

luctantly allows 'usage' to sanction our speaking of "true and false beliefs or judgments."¹¹

To me, on the other hand, these are the really important things, which no 'logic' may sacrifice to juggling with 'propositions,' under penalty of extinction. Nor can I understand how Professor Wells can claim to have assimilated the biological point of view, unless he is willing to believe that "beliefs which a man can not *live with* he has no option but to discard; beliefs he can not *live without* he must find reasons to adopt. These too are corollaries from Darwinism, which philosophic theories must assimilate, if they themselves are to live."¹² All this seems to me to hold, not merely of religious beliefs but of views on logic and metaphysics as well, and the only way of continuing to profess unworkable beliefs would seem to be to hold them with a mental reservation that they must on no account be acted on.

4. These differences in the meaning we severally attach to the terms involved will not render it easy for Professor Wells and me to mean the same thing by the 'biological foundations of beliefs,' even where we use the same phrases. Still more of an obstacle, however, would appear to be created by his reticence about my conception of the relations of truth and value. I had in my article put forward a very definite proposal for treating 'truth' as a *species* of 'value,' and shown that every 'fact' and every 'truth' logically implied a claim to be *the best* of the alternatives that were within the cognizance of the science recognizing the 'truth' or 'fact' alleged. Nevertheless Professor Wells has not a word, whether of approval or of rejection, for this theory. Until he has made up his mind about it, he hardly seems to me to be in a position to approach the subtle and infinitely complicated problems which arise when we attempt to determine, more precisely and concretely, the actual extent of the biological influence on the beliefs that are in vogue.

For when we approach the actual complexities of human beliefs we speedily discover how inadequate to their analysis are such simple-minded maxims as 'facts are facts whether we know them or not,' or 'truth, like murder, will out,' or 'errors are mutable and fleeting, while truths are eternal and abide without change.' We find that in point of fact it is 'truth' that changes and 'errors' that persist unchanged from age to age, that facts which are unknown largely cease to operate as such, while illusions, superstitions, errors, and lies, which are believed to be facts, *ipso facto* become at least social facts, and grow a mass of evidence which bears them out, and

¹¹ P. 270, cf. p. 261.

¹² H. V. Knox, *op. cit.*, p. 93.

often seem as authentic as anything that is believed, while the more we pry into the credentials of our beliefs the more incredible it becomes than any 'truth' or any 'fact' should be absolute.

The student of beliefs, therefore, will not arrogate to himself the right of declaring that any belief has the supreme value ('validity') of an absolute truth about absolute fact; he will be modestly content with registering the varying values of beliefs, and will note their infinite gradations. Neither will he expect sweeping generalizations, such as that biological conditions must determine the survival of beliefs and that positive survival-value must entail acceptance as true and negative survival-value rejection as false, at once to clean out all the nooks and crannies of his subject.

He will reflect rather that beliefs admit of degrees and shades, of varieties and variations, and that few minds are so stable, tenacious or narrow, as to maintain any particular attitude of belief with full intensity of conviction for any considerable period, untempered by the corroding breath of doubt, and unmodified by the accretions of age and growing insight. He will find that half-beliefs and quarter-beliefs are common, and that some beliefs are intermittent and exhibit seasonal dimorphism, while beliefs that are relative to an occasion which evokes them are apt to pass away with the same. He will note further that beliefs may be more or less unconscious, and that men may be unaware of those that determine their actions. so that they may unwittingly (as well as consciously) give a false account of them. Some minds, he will find, are distracted by the open struggles of incompatible beliefs, all influencing their action and equally capable of determining it; while others seem to be built in logic-tight compartments, and suffer little or no inconvenience from sheltering inconsistent beliefs in different 'parts of the soul.'

When, in face of such a situation, he is called upon to consider the relations of belief to action, he will hardly be able to answer off-hand. He will see that the biological test of survival-value may become hard to apply, because there are so many ways of more or less evading and defeating it.

Thus while it may remain undisputed as a general principle that action is the ultimate test of belief, it will not follow that this principle applies to everything that calls itself a belief. The questions will have to be raised whether what is professed is really believed, whether it is the professed belief or the real that determines action, or both in varying propositions, whether, when after a struggle a professed belief is *not* enacted, we may safely declare that it was not *believed*.

Again, how are beliefs to be dealt with which disclaim any connec-

tion with action, and profess to be purely 'theoretic'? It is clear that they need not lead to the consequences they should logically involve, on the assumption that their meaning and value are to be tested in the normal way, by action. And this for several reasons. In the first place action may now be guided by principles, which may either be depreciated as 'practical makeshifts' or be unavowed altogether, entirely different from those which are called 'theoretically true.' Hence the most futile or pernicious beliefs can now be held with impunity. For even though they might be fatal *if acted on*, yet since they are *not* acted on, their holders may persist and flourish; and their 'beliefs' with them. And yet, if they are not acted on at all, are they believed at all? Ordinarily, one would answer—'No, they are mere make believe and camouflage.' But here it is part of their case that, being *purely theoretic*, they *ought not* to be acted on. If therefore we abstain from pressing the subtler point, that to abstain from action on such a theory is really to act on it, we should appear to be baffled. Thus the testing of beliefs by action fails in the case of *complete intellectualism*. For in this case all connection between belief and action seems to be broken down altogether. Any belief may accompany any action, and no inference holds from action to belief or *vice versa*. This is so inconvenient a corollary that it is fortunate that complete intellectualism is extremely rare, and that for practical purposes it may safely be identified, less charitably, with *complete insincerity*. At any rate an adequate diagnostic for the discrimination of these two habits of mind would appear to be a great *desideratum* of intellectualist apologetics.

All these complications may inspire us with caution, and may receive further illustration, when we approach the difficult question which has been raised, that of the biological confutation of pessimism. It is indeed soon clear that the case of pessimism is not to be disposed of by a simple declaration that of course pessimism can not be true, because it is a belief that eliminates its holders. For how then could there continue to be pessimists, as there have been in all ages? There must be something, then, about the world that enables them to continue, even as a minute minority. What that something is is more difficult to determine. It may be that the pessimistic temper is correlated with other qualities, like caution, that are conducive to survival. It may be merely that pessimism survives, because it is not acted on. But it seems to be very unlike the 'purely theoretic' beliefs instanced above, and probably always affects action more or less. *Complete* pessimism is no doubt a difficult theory to act on; but so is perfect optimism: in fact the difficulties of both would appear to be essentially the same. But partial, or seasonal, pessi-

mism does *not* seem to be practically impossible. It may even be a better adaptation to the given circumstances than some forms of optimism. 'Bears,' as well as 'Bulls,' make fortunes on the Stock Exchange. It may be argued, therefore, that there must be something inherent in the constitution of things to which pessimism is a response, or even an adaptation, and that pessimism will be as permanent as that something.

But is not this to admit that pessimism is *pro tanto* 'true,' even on the vulgar or 'correspondence' view of truth? For it is to give it a basis in the nature of reality. No doubt as much or more might be claimed on behalf of optimism, if that too were taken in a partial or moderate sense. It would then follow that *both* pessimism and optimism were 'true' and rooted in reality, which naturally stimulated some minds to a pessimistic, and others to an optimistic, reaction.

'Fie upon the contradiction!' intellectualism would thereupon exclaim. But there would be *no* contradiction in the nature of the real. The real would really and objectively be such as to render *either* interpretation subjectively possible. It would be, if not neutral, at all events not such as to favor either party decisively. It would really be such as to stimulate one mind to a pessimistic, and another to an optimistic, verdict; nor could any amount of partisanship on our part induce it to alter its attitude. Moreover it would clearly be as 'objective' a fact as any other that the real appealed differently to different minds and was valued accordingly.

It may now be suggested that the case of pessimism does not stand alone. This sort of situation is in fact the rule. In every disputed question the parties to it will have a bias, and their bias will largely determine their answers. There will therefore be a psychological, subjective, or personal side to it, and it may often be the only side that matters. We all know that it is vain to recognize any other in dealing with the beliefs of lunatics and fanatics. In no disputed question can it be truthfully alleged that the nature of things imposes on us any particular answer. That is precisely why we feel free to believe as we like, or to let 'theoretic' considerations determine our beliefs. The real does *not* determine them for us with biological necessity. But our freedom in either case has an element of illusion in it. We are not *wholly* free, and the 'theoretic' considerations which *seem* to determine our beliefs are not ultimately theoretic. For the same reason in both cases, *viz.*, that the nature of things does exercise a certain control, and limits our freedom, though it does not destroy it altogether. This is just why it is so important to show that even in an extreme case, like that of pessimism, the biological determination of beliefs is not complete.

All of this, on a little reflection, will probably seem obvious. But is it not strange that, in face of it, any philosopher should seriously contend that the human and personal factor in beliefs must be ignored? For it appears to be the very factor to which alone we can look to transmute the ambiguous and indeterminate pressure of the uncomprehended real into definite judgments of affirmation or denial, according to the bent of the personality engaged; thus it is the sole factor which can engender truth and render reality comprehensible. It is possible, of course, to abstract from this factor; for it appears to be irrelevant for many scientific purposes: but nevertheless depersonalization is essentially a *fiction*. It is a fiction, moreover, which conceals from our view all the subtlest and most interesting influences of vital conditions upon beliefs, and renders impossible any coherent and intelligible accounts of the relations of truth and value.

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THE LOGIC OF PROBABLE PROPOSITIONS

FORMAL logic is an analysis of principles almost instinctive to common consciousness. Quite as instinctive are the principles of probable reasoning; yet philosophers have had little success in bringing them into the high-light of criticism, and less in uniting them with formal logic. The present paper is a suggestion toward attaining this analysis and this union.

A frequent misconception of the nature of probability will serve as starting point. A judgment is probable, say Laplace and his less illustrious follower Jevons, because he who judges believes, but is ignorant of the truth or falsity of his belief. Says Jevons:¹ "Chance exists not in nature and can not coexist with knowledge; it is merely an expression, as Laplace remarked, for our ignorance. . . . Probability belongs wholly to the mind." Probability, therefore, being intensity of belief, has the same status as anger or impatience or indignation; and one may well inquire how there can be any standard of probability. The only answer is: Since one belief, *quâ* belief, is stronger than another, the probability of the proposition believed is greater on account of the feeling of conviction which attaches to the belief, not at all on account of any character attaching to the proposition believed. But there must be some standard degree of intensity of belief as point of departure. The essential (and wholly conven-

¹ Jevons: *Principles of Science*, Ch. X., pp. 197-98. Also Laplace: *Théorie Analytique des Probabilités*, Introduction, p. ii.

tional) canon of this school is: Where we are ignorant a belief is as likely to be true as to be false; the probabilities of propositions of whose truth or falsity we know nothing are equal. However, no self-evidence goes with this canon. Seeing its lack of *a priori* validity and not wishing boldly to assume it, some theorists have called it a generalization from experience. Edgworth says in this connection:² "I submit, the assumption that any probability constant about which we know nothing in particular is as likely to have one value as another, is grounded on the rough but solid experience that such constants do as a matter of fact as often have one value as another." It is extremely doubtful that, being ignorant of the relative frequencies of events, we have learned from experience, *en bloc*, that our expectations are fulfilled about as frequently as not. Any investigation of statistics will yield thousands of cases in which the relative frequencies of events are not one to two. Had we begun in any of these cases with the equal distribution of ignorance, experience would have disappointed us by refuting our assumption. We might, quite as well, have distributed our ignorance in the ratio one to three, or one to six; and experience would, in a great many cases, have corroborated these distributions.

To place probability beyond the merely conventional, we must disentangle it from belief and attach it, not to beliefs, but to propositions believed.

Any belief is true, not by virtue of the fact that it is a belief, but by virtue of some sort of relation between the real world and that which is believed. When we believe or judge, there is always something which we believe or judge. Following current usage, we may call it a proposition. In addition there is always an object of which the proposition is judged true. This object lies somewhere in the realm of fact as a "locus of verification." To believe that something is probable is not to alter this situation. There are still belief, proposition, and fact. It is as absurd to hold that comparative intensities of belief determine the comparative probabilities of propositions as that irresistible conviction determines truth. Probability, like truth, gets determined by a relation between the proposition believed probable and the state of the facts. What is this relation?

Clearly, it is not the same relation to fact as that which a true or a false proposition has. The assertion, "He will probably die of influenza," is on different level of predication from the assertion, "He died of influenza." Fact (the time element being inessential) will ultimately reduce the probable assertion to truth or falsity, with no middle ground. As a probable proposition, however, it is neither

² Edgworth: "The Philosophy of Chance," *Mind*, Vol. 9, 1884, p. 223.

true nor false. Its probability comes from its reference to something other than the fact which will ultimately validate or invalidate it. Were fact its only referent, it must be either true or false. This other referent is *a class of propositions of which it is a member*: a class of propositions all of which make the same assertion, but which make this assertion for different instances or different situations. In the convenient phraseology of Mr. Bertrand Russell's logic, such a class of propositions may be defined as all those, and only those, propositions which result when a propositional function is given specific significant determinations of its variable.

It is evident that the members of a class of propositions of this nature, whether the class be finite or infinite, may be all true, all false, or a part may be true and a part false, this truth or falsity being fixed by a factual "locus of verification" and not by belief. Therefore, probability is frequency of truth within such a class of propositions. Fact determines the frequency for the class. And to qualify a proposition as probable is to ascribe to it a truth frequency which holds for its class. A probable proposition has as its first referent its class; as its second and indirect referent, through its class, fact.³

It will be well at once to make the distinction between finite and infinite classes. Obviously, a function could be true for all, for none, or for part of an infinity of values. Therefore, an infinite class of propositions would have a truth frequency, and any single proposition of the class would be probable; with this reservation, however: the probability would not be numerical since ratio has no meaning in infinite collections. On the other hand, in a finite class of propositions the truth frequency which we call probability may or may not, as we choose, be represented numerically. It will be the ratio of all the cases in which the assertion is true to all the cases in which it can be significantly made. The obvious cases of universal truth, or "certainty," and universal falsity, or "impossibility" are to be noted in passing.

The kind of bare, abstract probability attaching to every predication which can be made separately of a number of instances or situations is the simple element from which the richer form of probable inference can be constructed. The writer uses because of its clarity Mr. Russell's notion of a propositional function. Bare numerical probability is the proportional frequency with which any

³ C. D. Broad: "On the Relation between Induction and Probability," *Mind*, N. S., Vol. 27, 1918, p. 389; views probability as an irreducible reference, a view to which the present writer can not agree. See also for a similar view, R. Demos: "A Discussion of Modal Propositions," *Mind*, same vol., p. 77.

propositional function will be determined as true by all values of its variable (the values being finite in number).

The measurement of any specific probability is difficult. Not all facts are given or are accessible to observation. So, it is impossible to know, when a class of propositions has been defined, how many of them will be true and how many false. Some simple cases are analogous to perfect induction and present no difficulty. Consider the well-worn example of the urn containing seven white and three black balls. If the balls be drawn and not replaced, the truth frequency within the class of propositions "*x* is the drawing of a white ball" must be seven to ten. Suppose, however, that the balls be replaced in the urn after each drawing, so that we have an indefinitely large number of possible drawings. Now the class of propositions can never be completely compassed, for it continues to grow larger. How can the probability of drawing a white ball be measured without some assumption? Laplace assumes that the drawings are made at random, random distribution assuring the appearance of one instance as often as any other. This amounts again to the equal distribution of ignorance.

We must escape the assumption of this doubtful canon by taking the position that probability can properly be measured, not before the fact, but only after the fact. The measure of the probability of a propositional function is a limit which the truth frequency of that propositional function as actually determined by trials tends to approach. The calculation of a probability can not be *a priori*; it must always refer back to the fact in experience; hence it must always be approximate, tentative, subject to revision. The calculations of actuaries give the best examples of the proper measurement of probabilities. They are in no sense *a priori*. Probability being thus measured after the fact and being defined as a truth frequency within a class of propositions, it is not necessary that every proposition of the class be equally possible, or—what is the same thing—equally probable. It is necessary only that the propositions of the class be distinct, numerable, and finite. It remains for experience to discover the limit which its truth frequency approaches. However, discovered or undiscovered, there must be a numerical truth frequency within a finite class of propositions. The subsequent derivation of the numerical laws of probabilities rests on this statement.

Classes of propositions, obviously, may stand in logical relations to one another. They may, for example, be related by implication, disjunction, conjunction, or opposition. Further, the assertion of such a relation between classes of propositions itself defines a new class of propositions. This third class of propositions may have a

truth frequency. Logical relations between propositional functions (we have called every propositional function a bare probability) give rise to the laws of probable reasoning just as they do to the laws of formal or necessary reasoning. Formal truth or necessity in such relations differs from probability in that the one holds for all values, the other only for a part of the values for which the relation can be asserted. Formal truth or necessity may in this way be regarded as a special case of probability.

The case of disjunction is fundamental in the logic of probabilities. The law for the addition of probabilities comes from it. Now, to assert that two classes of propositions stand formally in the disjunctive relation means: for any value of the variable, at least one of the assertions (or propositional functions) which define the two classes is true. This does not exclude their both being true. Such a disjunction would be: "Either a young man was willing to serve his country in the war or he was a traitor to it." This disjunction will, however, lose its formal character to become probable if there are values of the variable for which it is false as well as values for which it is true. It is false when both extremes of it are false, *i. e.*, when "a young man unwilling to serve his country is not a traitor to it." There being such young men, the assertion must be altered to a probable disjunction.

But how do the probabilities within each of the disjoined classes affect the probability of the disjunction itself? Since the disjunction is not exclusive, there may be cases in which both of its extremes are true, *i. e.*, in which "a young man is willing to serve his country and at the same time is a traitor to it." Only fact can determine how many such cases there are. However, each class of propositions, if it is finite, must contain a certain number of true propositions and a certain number of false. Each must have within it a numerical probability. If the disjunction be exclusive, so that it is true only when one or the other of its extremes is true exclusively, then the total number of cases of its truth must be the sum of the number of cases for which each of its extremes is true. The probability of the exclusive disjunction must, therefore, be expressible in terms of the probabilities within the two classes of propositions which it relates.

A consideration to be mentioned here and borne in mind throughout the discussion of the relations between classes of propositions is the identity of the variable. If the class of propositions defined by " x is A " be related to the class defined by " x is B " through the disjunction " x is A or x is B ," it must be remembered that though x is a variable, it is the same variable throughout. The total number of values of the variable for which an assertion can be made forms one

term (the denominator) in the probability ratio for this class of propositions; the number for which the assertion is true forms the other (the numerator). Because x is the same variable throughout, for all three classes of propositions—" x is A ," " x is B ," and " x is A or x is B "—the denominator of the probability ratio must be the same.

From this, the identity of the variable, and from the previous definition of an exclusive disjunction, it follows that the probability of one proposition being r/x and of another s/x , the probability of their disjunction, where they are exclusive will be $(r + s)/x$. This is the usual rule for adding probabilities.

Similarly, implication between two classes of propositions may be formal or probable. The probability of an implication, however, will bear no determinate numerical relation to the separate probabilities of its two terms. But just as strict inference depends upon the implicative relation, so does probable inference. Inference proceeds from a true proposition (as hypothesis) and a true implication. Granted the truth of the implication, "If man is humble he shall inherit the kingdom of Heaven," and granted that a certain man is humble, the inference that "he shall inherit the kingdom of Heaven" is valid. All cases of an inference are numerically represented by all cases in which the antecedent of the implication upon which it proceeds is true. (Not so with all cases of the implication; for the implication may be true when the antecedent is false. A false proposition may imply any proposition.) If the implication be formally true, the inference will also be formally true; otherwise, unless formally false, the inference will be probable. Since an inference can be made only when the antecedent of the implication has a value making it a true proposition, a probable inference is, therefore, one of a class of inferences defined as all cases in which the antecedent of a probable implication is true. Thus, a class of probable inferences is defined by all cases of humility where "humility probably implies the inheritance of the kingdom of Heaven." The total number of cases of the inference (or the denominator of the ratio specifying the truth frequently in the class of inferences) will be all the cases of the truth of the antecedent; the numerator will be all cases of joint truth of antecedent and consequent, that is, all cases in which the inference is true. This fraction, again, can not be determined by any combination of the bare probabilities of the terms of the implication with one another.

The common logical consciousness makes continual and successful use of probable inference. The notion that probability has meaning only in so far as one proposition is conditioned by some other propo-

sition comes, it appears, from conceiving the probable only as that which is probably inferred, without analyzing this complex notion into the simpler one of bare probability in reference to a class of propositions. The foregoing analysis of probable inference is, moreover, essential to the definition of independence which conditions the rule for multiplying probabilities.

The multiplication of probabilities has its basis in the relation of conjunction. Two classes of propositions being formally conjoined, their defining assertions will be jointly true for all values of the variable. Being probably conjoined, they will be jointly true only for some values of the variable. As in the case of probable inference, their separate bare probabilities give no aid to the calculation of the probability of their conjunction. For no reason exists why the product of their separate probabilities should be the probability that they are jointly true. The number of cases of their joint truth is a matter wholly determined by fact. Suppose, however, they are independent in the sense that when one is true the probability that the other will be true remains unaffected. For example: It is probable that a man may be wounded in battle and it is also probable that he may receive the Croix de Guerre. The probability that he will receive the Croix de Guerre will remain the same whether or not he is wounded in battle. Hence, the inference "If he is wounded in battle he will receive the Croix de Guerre" is no more or less probable than the proposition "He will probably receive the Croix de Guerre." Their probability is equal. Symbolize the probability of the two original propositions by r/x and s/x . The probability that an inference can be drawn from one to the other must be, as we saw, the ratio of the number of cases of their joint truth to the total number of cases in which the antecedent from which the inference is drawn is true. If k represents the number of cases of their joint truth, then the fractions k/r and k/s will be the probabilities that an inference can be drawn from either one to the other of the propositions; for r and s are the total number of cases, respectively, in which the antecedents of the two possible inferences are true. (The identity of the variable, which makes the total number of cases of truth and falsity the same for both of the classes of propositions and also for their conjunction, must be again borne in mind. This, the denominator of the probability fraction for each class, is symbolized by x ; and since x is assumed to be in its largest, or "factual," terms, r and s will be in their largest terms.) The probability of the joint truth of the two classes of propositions will necessarily be symbolized by k/x .

The independence spoken of above, which means that the probability "If a man is wounded in battle he will receive a Croix de

Guerre" is no greater or no less than "the probability that he will receive a Croix de Guerre," can be represented by the equation $r/x = k/s$. The probability of the inverse inference of independence will be $s/x = k/r$. These two equations, however, are exactly what result when we assume the ordinary rule for multiplying probabilities. If the product of the probabilities of the two propositions is equal to the probability of their joint truth, the equation $r/x \times s/x = k/x$ must be true. And this equation reduces to $r/x = k/s$ or $s/x = k/r$. Therefore, the arithmetical product of two probabilities will represent the probability that the two propositions will be jointly true on condition that the propositions are independent, in the sense that if one is true the probability that the other will be true will be unchanged.

It becomes evident from the discussion that, although specific probabilities like specific truths are to be measured by fact, the laws of combining probabilities into conjunctions, disjunctions, or inferences lie within the realm of pure logic; and that the laws of these fruitful methods of reasoning are intimately related to all other laws of thought.

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REVIEWS AND ABSTRACTS OF LITERATURE

Studies in Psychology. Contributed by Colleagues and Former Students of Edward Bradford Titchener. L. N. Wilson. 1917. Pp. 337.

This volume of studies was presented to Professor E. B. Titchener at a celebration of the completion of twenty-five years of distinguished service to Cornell University and to psychology. The book was edited by Professors W. B. Pillsbury, J. W. Baird, and M. F. Washburn, and contains contributions from twenty colleagues and former students. As there are nineteen separate reports, only the general character of each will be indicated.

W. B. Pillsbury discusses the principles of explanation in Psychology, testing them in the special case of the antecedents of action. J. M. Baird reports an experiment upon memory for absolute pitch. He finds it a capacity possessed in varying degrees by different individuals and present usually only under special conditions. Ferree and Rand present methods for measuring the "Selectiveness of the Achromatic Response of the Eye to Wave-length and its Change with Change of Intensity of Light." J. N. Curtis tests the method of single stimulation, a rapid method of determining tactual dis-

crimination and susceptibility to visual illusion for use in anthropological and other field studies. She finds that under these special conditions of work the method is superior to others requiring a number of tests upon fewer individuals.

Problems in learning and recognition are reported by A. S. Edwards and H. M. Clarke, and problems in social psychology are discussed by M. F. Washburn and R. H. Gault. H. C. Stevens reports a modification of the Rossolimo mental tests such that their good features are retained while the time for the test is reduced from three hours to one hour. In a study of the affective tone of color combinations, L. R. Geissler derives the general law "that the greater the pleasantness of the individual constituents, the greater will be the pleasantness of the combination." C. G. Shaw discusses the psychological analysis of the religious consciousness and points out errors due to the character of consciousness and to the psychological methods used to study it.

Two studies of meaning are included in the series, one by R. M. Ogden and the other by H. P. Weld. L. D. Boring and E. G. Boring investigate the accuracy of time estimations after sleep, the nature of the designated conscious cues, and the adequacy of these cues to the temporal judgments. C. A. Ruckmich reports a study of visual rhythm. He finds in it many of the characteristics of auditory rhythm, although it is less frequent and more subject to variation among individuals. K. M. Dallenback presents an analysis of consciousness in a game of blindfold chess. Studies are reported by E. C. Sanford upon the influence of satisfaction from success and of intention to learn upon improvement. W. S. Foster contributes a bibliography of the published writings of Professor Titchener. The references are grouped under Books, Translations, Articles, Notes, Discussions (200 titles), and Editorial Work (113 titles).

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A Study of the Mental Life of the Child. H. VON HUG-HELLMUTH. Translated by James J. Putnam and Mabel Stevens. Nervous and Mental Disease Monograph Series No. 29. Washington, D. C. 1919. Pp. 154.

The monograph under consideration embodies a serious attempt to interpret the mental processes of the child, through observation of his behavior. The author, however, labors throughout under two unfortunate limitations: she begins with a mental set, which predetermines all her thinking; and she does not appreciate the difference between "personal observations," and observations obtained under

carefully controlled conditions, according to the method of science.

The mental set which the author brings to her work is that of a disciple of Freud. She attributes all childish activities to a single drive—the sexual instinct. Swinging, shouting, fear of cats, general manipulation of the environment, play, laughing when others laugh, weeping when others weep, vocalization—all are of erotic origin. Does the child splash about and enjoy his bath? The excitement is sexual in character. Does the child fight and wrestle with his comrades? This behavior, too, is sexual, and portends the sexual act in adult life. Does the child become angry when thwarted, or resist his elders, or fall into a tantrum of jealousy at seeing another approved? “What else can it be than” a method of striving for erotic satisfaction? Intellectual development is also sexually motivated. “Interest in their own sex organs . . . explains, too, why boys—as a rule—acquire a greater familiarity with numbers and figures earlier than girls.”

The book is full of such expressions as “I maintain that,” “it seems to me,” “I can confirm this from my own experience,” “surely it must be,” and the like. Yet there is no hint that the author regards her contribution merely as an expression of personal opinion. She generalizes extensively, and apparently is satisfied that her generalizations have the validity of scientific facts. As one reads, one’s interest is diverted from the subject matter itself, and becomes absorbed in watching the influence of the point of view, as it catches every act of the child and forces it to emanate from the sexual instinct. One is tempted to try the game of showing how every childish act can be explained by reference to acquisitiveness, mastery, food-getting, or some other of the fundamental elements in the original nature of man.

The author’s insistence on adequate recognition and study of the sexual instinct in children is admissible. Of course this instinct should have its share of the attention of psychological investigators, which it has, perhaps, not had in the past. One is not led to believe, however, that *all* of the attention of such investigators should be given to it. One believes merely that this author has failed to make acquaintance with Thorndike, McDougall, and William James, and that her reflections would have been illuminated by such acquaintanceship.

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JOURNALS AND NEW BOOKS

THE AMERICAN JOURNAL OF PSYCHOLOGY. July, 1919. *Eye-Movement During Fluctuation of Attention* (pp. 241-252): H. S. LIDDELL. - Eye-movement does not cause the fluctuations in attention. No prominent eye-movements synchronize with the onset of visibility. *What is "The Unconscious"?* (pp. 253-259): HENRY JONES MULFORD. - Consciousness must be considered in terms of brain structure. "The Unconscious" then is a reflex action of the neurone and for that reason incorrectly named. *The Psychologic Aspect of Free-Association* (pp. 260-273): THEODORE SCHROEDER. - A series of free associations are presented. The author analyzes them into their relation to past experiences of a more or less erotic nature. Psychoanalytic methods are described and defended. *The Freudian Doctrine of Lapses and Its Failings* (pp. 274-290): A. A. ROBACK. - The lapses in speaking, writing and printing are explained by far-fetched, fantastic association complexes when in nearly every instance the mistake can be accounted for by associations in the immediate context material. *On Sound Discrimination in Dogs* (pp. 291-294): W. T. SHEPHERD. - Some dogs discriminate differences of musical pitch. *Confessions of an Agoraphobic Victim* (pp. 295-299): VINCENT. - The report of a man who for most of his life has had a dread of open places and broad level stretches. All bleak barren landscapes terrorized him. *Minor Studies from the Psychological Laboratory of Vassar College. Directed Ego-centric Reactions* (pp. 300-302): KATHERINE B. GRAVES, EVELYN HEATH and M. F. WASHBURN. - Correlation exists between proper names and pronouns as reaction words and the tendency to personally apply stimulus words when so directed. *An Attempt to Test Moods or Temperaments of Cheerfulness and Depressions by Directed Recall of Emotionally Toned Experiences* (pp. 303-304): ELEANOR MORGAN, HELEN K. MULL and M. F. WASHBURN. - Association reactions showed a correlation with the moods as shown by the judgment of their friends. *The Healy-Fernald Picture Completion Test of the Perception of the Comic* (304-307): MARIAM A. WALKER and M. F. WASHBURN. - There is more variation among adults in the sensing of incongruous humor than among children. *The Results of Certain Standard Mental Tests as Related to the Academic Records of College Students* (pp. 307-310): HERMINE BAUM, MIRIAM LITCHFIELD and M. F. WASHBURN. - There was some correlation in academic record and test performance for the opposites, analogies and vocabulary tests. *Minor Studies from the Psychological Laboratory of William Smith and Hobart Colleges. The Comparative Sapidity of Hydrochloric, Sulphuric and Acetic Acids* (pp. 311-313): L. GIB-

- SON and T. HARTMAN. — Sapidity of hydrochloric and sulphuric acids depends on their concentration in hydrogen-ions, but acetic acid presents a stronger taste than this theory will justify. *The Daylight Mazda Lamp in the Psychological Laboratory* (pp. 313–315): GILBERT J. RICH. — The lamp is dependable through the middle range of the spectrum but is deficient in blue rays. *Book Reviews*. Charles Nordman, *A Revolution in Biology and Surgery*. Dead grafts. Honorio F. Delgado, *La Psiquiatria Psicologica*: PHYLLIS BLANCHARD. *Book Notes*. Wilfred Lay, *The Child's Unconscious Mind*. E. A. Kirkpatrick, *Studies in Psychology*. A. D. Watson, *The Twentieth Plane*. Charles Mercier, *Crime and Criminals*. J. B. Miner, *Deficiency and Delinquency*. R. F. Richardson, *The Psychology and Pedagogy of Anger*. Charles O. Whitman, *Orthogenic Evolution of Pigeons*. E. R. Squibb and Sons, *Materia Medica*. Government, *Thirty-second Annual Report of the Bureau of American Ethnology*. East, Edwin M., and Jones, Donald F. Inbreeding and Outbreeding: their Genetic and Sociological Significance. Monographs on Experimental Biology Series. Philadelphia: J. B. Lippincott Co. 1919. Pp. 285. \$2.50.
- Morgan, Thomas Hunt. The Physical Basis of Heredity. Monographs on Experimental Biology Series. Philadelphia: J. B. Lippincott Co. 1919. Pp. 305. \$2.50.
- Walcott, Gregory Dexter. Tsing Hua Lectures on Ethics. Boston: Richard G. Badger. 1919. Pp. 193. \$1.75.
- Warren, Howard C. Human Psychology. Boston: Houghton Mifflin Co. 1919. Pp. xvii + 459.

NOTES AND NEWS

THE formal opening of the University of Strasbourg under French auspices took place on November 21 and 22, 1919, the anniversary of the entrance of French troops into that city after the armistice in 1918. Delegates from all the principal European universities were present at the ceremonies, as well as representatives from several American universities, including Harvard, Columbia, Michigan and Pennsylvania.

A reception for the delegates and guests was held on the evening of November 21. The formal ceremony of the opening of the university took place at 8:30 the next morning and consisted of several musical numbers and of addresses by the rector of the university, by M. Pfister, vice-president of the University Council, M. Bucher, president of the alumni association of Alsace-Lorraine and honorary president of the *cercle des jeunes étudiants*, and by President Poincaré. At one place during the exercises an opportunity was given

the delegates to come forward and deliver messages from their various universities, but the time was not long enough to permit more than a fraction to be called upon.

At the close of the programme of inauguration there was a parade past the university of French troops and members of Alsatian societies in native costumes, and immediately after this a banquet for the faculty, delegates and distinguished guests. The formalities were brought to a close by a gala programme of Massenet's "*Manon*" in the evening.

THE American Philosophical Association held its nineteenth annual meeting at Cornell University on December 30 and 31, 1919. The officers elected by the association for the year 1920 are as follows: President, Professor Ralph Barton Perry, of Harvard; Vice-president, Professor B. H. Bode, of the University of Illinois; Secretary-Treasurer, Professor A. H. Jones, of Brown.

THE twenty-eighth annual meeting of the American Psychological Association was held at Harvard University on December 29, 30 and 31, 1919. Six sessions were held, each dealing with some particular phase of psychology—experimental, educational, social, *etc.*—and two joint meetings with other associations, the American Association of Clinical Psychologists and the American Anthropological Association. The officers elected for 1920 are as follows: President, Professor Shepherd Ivory Franz, of St. Elizabeth's Hospital, Washington; Secretary-Treasurer, Dr. Edwin G. Boring, of Harvard; Members of the Council, Professor Herbert S. Langfeld, of Harvard, and Professor W. V. Bingham, of the Carnegie Institute of Technology.

A MEETING of the Aristotelian Society was held on December first, Professor Wildon Carr, vice-president, in the chair. Mr. G. Cator read a paper on "The Nature of Inference." The logic of the concrete universal as the medium of judgment and inference was criticized. It was shown by analysis of examples that it does not really succeed in making contact with its differences, their content is only *imputed* to it. On the other hand the instrument of inference is always an intermediating representation, particular and not universal. Absolutism, the outcome of the theory that the active dominant concrete universal is the instrument of inference, ends in the concept of reality, under the form of eternity, as an exhaustive system of differences, without character, a contentless limit. Dr. Bernard Bosanquet, in a communicated criticism, considered that Mr. Cator's view was right in so far as it rejected the linear account of inference—an affair of gaps with lesser gaps intercalated. The true general theory of inference Dr. Bosanquet described as systematic implication, or creating a partial complex in view of one's world.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE NEED FOR AN EXAMINATION OF CERTAIN HYPOTHESES IN MENTAL TESTS.

RELATIVE to the time and number of people devoted to work with mental tests, the results have been astonishingly meager in theoretical value. Not only do investigators in the field of mental tests fail to find generalizations of interpretative value in their own material, but writers who are eagerly searching for data and relations worth speculating about are given scant reward for any perusal of the voluminous literature of mental tests. In view of the unproductiveness of the field in propositions of fundamental significance, it seems worth while to examine the situation to discover possible causes that may explain the failure. We must look for such causes in conditions basic to the field since it is not likely that any superficial errors would bring about what from a theoretical point of view is great waste of scientific talent.

The fact that mental tests have some practical value does not account for the lack of contribution to theory, in fact one might suppose that the increasingly general use of tests in concrete situations where the result really makes a difference would make the development of sound theory immediate and necessary. Yet one finds but little evidence that such stimulus of the theoretical by the practical is taking place. It seems to me quite contrary to our experience of the nature of the interaction of pure and applied science to think that the practical usefulness of tests is limiting their possibility for theoretical contribution.

I venture this explanation. Extensive collection of data through mental tests began without the necessary antecedent and contemporaneous development of point of view, hammering out of contradictions in concepts and hypotheses, and elimination of ambiguities in common everyday words and ideas. There has meanwhile grown up a habit of thinking about intelligence and ability which is founded, not upon manifestations of intelligence as we commonly experience them, but upon derivative facts which are the results of measurement by mental tests. These derivative facts are subject to fundamental bias due to the nature of the terms in which the results of

mental test performances have been expressed and due to the type of analysis which our limited and frequently misused statistical technique makes possible. A further complication arises through a willingness to accept statistical hypotheses as applied to intelligence simply to have statistical technique available for use. Now these habits of thinking which have been grounded on misleading derivative facts are the intellectual equipment which has been available in the analysis of further derivative facts. Naturally, it has been impossible to arrive at propositions of theoretical importance, the tool of criticism being of the same substance and no more finely tempered than the material to which it has been applied. The piling up of data has therefore been of little advantage, in fact it has created a wilderness of tangled issues of trifling importance removing still further the possibility of theoretical evaluation and interpretation.

In order to justify this position and to clear up if possible the obscurity of the explanation, let me give some illustrations of the way derivative facts, the test measurements, may mislead. I am afraid I shall have to take some definition of intelligence for the purposes of this paper, but if the reader does not like my definition, he may substitute any he happens to have a fondness for—the propositions I wish to make will hold good, I believe, for any ordinary conception.

Let us take Stern's definition which is generally known and widely accepted in its main implications. "Intelligence is a general capacity of an individual consciously to adjust his thinking to new requirements: it is general mental adaptability to new problems and conditions of life." In spite of the assumptions that are made in putting the term "general" into the definitions, this concept will be useful enough here.

If we can, let us abandon the terms and concepts which mental tests have given us and approach intelligence, this general mental capacity, as an adaptive function with which we are continuously in contact in our ordinary experience. One of our thought habits that we should be likely to question first is that general intelligence, even in quantitative terms, can be expressed as a linear or one-dimensional function. That is, we should question whether of two individuals, Henry and Henrietta, one must of necessity be equal to, greater than, or less than the other in general mental adaptability. It is interesting to see how this thought habit that quantitative intelligence must be a linear intelligence may have arisen. In measuring the performance of an individual in any test, the scale which we use, be it "seconds" or "correct responses," is a linear scale; where it is not a linear scale, as when

time and accuracy are observed, an index is shortly forthcoming which is linear. These measures, in terms of linear scales, become symbolic of the individual's performance, and are in this sense derivative facts introducing the bias of the linear scale into the comparisons of the abilities of various individuals. When the results of several tests are combined, as for example, in the Binet series or the Army Intelligence tests, the standing in the combination is again expressed in terms of a linear scale, not because we have analyzed our concept of and experiences with general intelligence and have found it so expressible, but because our common methods of test measurement and combination preclude any other result.

I am inclined to think that intelligence may best be thought of quantitatively as multi-dimensional, a somewhat different thing from multi-focal; and that general intelligence may be expressed as position in multi-dimensional space. I do not wish to enlarge on this point of view at this time, except to indicate how even though intelligence be multi-dimensional, a linear statement might serve with considerable success for practical purposes as it has done to a very real extent.

In talking about the *size* of individuals we are able to distinguish well enough between large and small men, recognizing that we consider height and weight in making our judgments. If a man be tall and heavy, he is large in size; if he be short and light, he is small in size. If we should combine quantitative measures of height and weight for these two individuals just as we combine the measurements on different tests, we should have *size* expressed on a linear scale in terms that check up well enough with the facts. If, however, a man be tall and light, or if he be short and heavy, and if we should combine these measures, we should find these two men to be "average" in size, a thing which, if anything, they are not. *Size* thus breaks down as a variable that can be measured in linear terms, because quantitatively size is at least two dimensional, and "general size" must be stated as position in two-dimensional space.

The reason we can talk about men being large and men being small, is because of a correlation that exists between height and weight. But we do not deceive ourselves by thinking that size is an objective attribute measurable in linear terms; we never refer to a tall thin man as a man of average size. We have, however, grown into the habit of thinking that general intelligence is expressible linearly, and in my opinion this is due, let me repeat, to the influence of derivative facts in shaping our concepts. General intelligence might better be thought of as position in multi-dimen-

sional space, just as size is considered position in two-dimensional space.

Let us consider a bias of another type. If we were approaching the field without too definite statistical prejudices, I am inclined to think that we should question before we got very far the implications of the assumption of linear regressions between test performance and general intelligence. The assumption is made quite generally and it has affected basically our thinking about the measurement of ability.

It should be stated at this point that evidence of linearity consisting of the regression of test measurements on judged intelligence is ordinarily worthless. The range of ability tested is usually so narrow, or the method of obtaining judgments so prejudices the facts as quantitative measurements that the regressions observed are descriptions of actual conditions at second or third hand at best.

Consider any test you please, it is fairly obvious that for certain ranges, either extremely high or extremely low, differences in intelligence will not be paralleled by differences in test performance. Where we have a fairly objective criterion as age in maturity relations or trade skill in trade test relations, we find gross departures from linearity the rule rather than the exception.

Yet the habit of thinking of these relations in terms of correlation coefficients with the implied assumption of linearity is quite general. It is of course basic to all attempts to combine tests by the partial correlation method, a method that was found quite inapplicable in the preparation of trade tests where the regressions could be studied. Consequently, we are building on the sand as long as the consequences of such an assumption are not critically examined.

One other illustration should serve, though I have no idea that the possibility of such illustrations is exhausted. We should probably not admit that we, as individuals, are of the same general intelligence from time to time if we were very hard pressed on the point. We know pretty definitely that our "general mental adaptability to new problems" varies markedly from time to time and place to place. It varies with what we have eaten and how we have slept, with time of day and character of our immediate associates. For some people this variability is probably greater than for others.

But an assumption of a static intelligence level is necessary to mental test work as it is now conceived. It may work well enough for practical purposes, but it is no basis for speculation. Such an assumption seems based on a certain degree of uniformity as found in testing the same individuals at different times. So much the worse for the tests! If we did not need such an assumption so

badly, we should question at once whether tests giving the same rating from time to time are not extremely insensitive measures of general mental adaptability. This bias is strengthened by the necessity for making such an assumption in order to use the methods of attenuation which have been popular. For although one can make allowances in studying the size of correlation coefficients for errors that are made in measuring a static thing, to make such corrections when the thing measured is unstable and variable is hardly permissible.

In my opinion, the fruitlessness of the mental test field is caused by the persistence of such thought habits as the three I have described. I would not contend that the propositions I have made are true. I only want to show that many fundamental notions that color the whole test field are open to superficial criticism to say the least. The justification found in Stern, that just as electricity is measured without too precise a knowledge of electricity, intelligence can also be measured without a final theoretical groundwork, has carried us too far. We must examine our basic hypotheses, putting aside as far as possible such concepts as we have formed as a result of the study of derivative facts. We must abandon in research that we hope will be of theoretical importance, assumptions and methods which critical analysis shows to be faulty, painful as this procedure may be. It is not my intention to question the very real practical value of mental tests. But the usefulness of mental tests in concrete situations can not increase beyond a certain point unless, along with the activity in the field as an applied science, results of a speculative and interpretative value are secured. It is probable that many of the failures of mental tests can be traced to our present inadequate theoretical foundations.

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PROFESSOR STRONG'S THEORY OF "ESSENCE"

I AM in agreement with so many things in the epistemological part of Professor Strong's recent volume, that I hesitate to put myself in the position of a critic. I should prefer to have it understood that I am raising certain questions of interpretation rather, with the design, not so much of establishing a rival point of view, as of clearing up ambiguities in the interests of a common platform. I do not feel clear to what extent, if any, Professor Strong really would disagree with the claims I shall here advance. But I do feel that there are points on which his own pronounce-

ments are not as unequivocal as could be desired; and two of these in particular I should like in what follows to examine.

Professor Strong's theory of knowledge, condensed into a very brief formula, is roughly this: that in knowledge we are, through the instrumentality of a psychical state, affirming the presence, in an object independent of the knowing experience, of an abstract logical essence, this objective essence alone, and neither the object nor the essence's own "givenness" being given, or immediately apprehended. And the first question I want to raise concerns the precise description of this "given essence."

My difficulty centers about the apparently wavering use in Professor Strong's exposition of two or three of his fundamental terms, and, first, of the term "object." At the start he defines explicitly the object as the independent real to which knowledge is directed;¹ and to this usage it seems to me important to keep. For if the essence *also* is an object, we appear, notwithstanding all we may say about its non-existence and its non-psychical character, inevitably tending to think of it as a shadowy image hovering before the mind, and taking the place therefore of the real thing as the primary knowledge reference. Confessedly, that is, we should have *two* objects on our hands, and so the problem of adjusting them—a problem which, as Professor Strong holds, constitutes the stumbling block to traditional forms of dualism. Nevertheless we find him continually himself adopting just this terminology. Thus he speaks of "the enormous variations of size which are observed in visual objects (*i. e.*, essences);" of the essence as the object without its existence; of the "object as an essence" being given in sense perception; of the possibility of an object being given which does not exist.²

In comparing such passages with the more explicit definition, I seem to myself to detect a mixture of two points of view which I can not see are identical, though Professor Strong apparently would think them so. The two are set alongside one another instructively in a passage in which he speaks of the essence as "a mere logical abstraction, a vision conjured up."³ Now I am unable to feel the appropriateness of speaking of a logical abstraction as a vision conjured up. Logic has to do with conceptual reality, with characters rather than with things;⁴ vision, on the contrary, suggests just the sort of concrete picture or replica which, since it need have no existence in the physical world, philosophers have found a home for in

¹ "The Origin of Consciousness," p. 35.

² Pp. 231, 175, 36, 41.

³ P. 125.

⁴ For a statement of the logical interpretation, *cf.* 176.

the realm of the mental. And in spite therefore of Professor Strong's repudiation of his own earlier distinction between phenomenal things which alone we directly perceive, and real things, or things in themselves,⁵ he not infrequently reads very much as if the essence-object were just such a phenomenal thing. Nor is his constant assertion of the non-existence of the essence necessarily inconsistent with this. I have been unable to make quite certain also what is meant by this non-existence, for it might have either of two meanings, corresponding to the distinction just noted. If the essence is strictly logical, then its non-existence supposedly stands for the fact that it is a character or group of characters merely, taken as such in abstraction from existence; it is non-existent because its existence status is not attended to in apprehending it, and so is not a part of the apprehended content. But the non-existence of the essence might also mean, simply, that it is not the actually existent object itself; there need, indeed, be no physical reality anywhere of which it is a "ghost or vision." This last however would fail to carry any implication that it is not, as a vision, something in itself. A ghost must apparently have *some* reality, or it would not "be" at all; and in spite of ourselves therefore we are pointed back to the psychical. And it is this second interpretation indeed that is the apparent sense of Professor Strong's most explicit account of the matter. The essence, he says, has the same unreality that belongs to shadows; the material fact called a shadow is a piece of dark ground, but *as* a shadow it is the unreal counterpart of a thing.⁶ But is the "unreal counterpart of a thing" any more than a piece of dark ground that simulates a thing, though it lacks other qualities necessary to make it the particular *sort* of thing it simulates? Surely it is unnatural to speak of a *logical* fact as a shadow, or as the "unreal counterpart of a thing." And Professor Strong is every now and then betrayed into language that implies *some* non-physical "existence" for the essence. He speaks of the case where something *appears* which is not real (*i. e.*, which is not the reality it appears to be?), and of the datum as the *effect* of a real object.⁷ He speaks of the essence given and the object of which it purports to be the essence as mutually independent,⁸ though two things have already been defined as "independent" when one can exist without the other.⁹ It would perhaps be possible to avoid express contradiction by explaining that what is meant is not strictly the essence,

⁵ P. 7.

⁶ P. 180.

⁷ Pp. 77, 73.

⁸ P. 62.

⁹ P. 42.

but the mental state that carries the essence; but at best the very tendency to slur over the distinction between the two after they have been so carefully separated—a tendency which is illustrated rather frequently in Professor Strong's pages¹⁰—is evidence that there is real difficulty in grasping the essence, considered as a vision, apart from a psychical embodiment. The same situation, verbally at least, is suggested by the account of the process through which the essence becomes more than an essence, and is affirmed of the existing object. When we are told that in sense perception we not only have an essence but assume it to exist, the wording seems to imply that what we do is to add existence to something already fully qualified as an object. But if it already is an object, it is not altogether easy to meet the claim that it is itself the original object of knowledge, in which case dualism has come back.

In other places I think I am able to interpret Professor Strong in a way to free him from anything except verbal contradiction, more particularly in certain passages—which might seem explicitly to be denying the view here maintained—where he argues at length that the “true data of sense perception are not qualities but qualified objects.”¹¹ But here, if I do not misapprehend him, he is not thinking about the essence at all. When he maintains that physical things, not “sensibles,” are the true data of experience, or that what is given in sense perception is the physical object,¹² he is apparently, in spite of his definition of “given” and of “datum,” not referring to the essence—to which these terms alone apply—but to the real object itself. He is intending to maintain, that is, not that the physical object is originally given, but that it is *known* or *perceived*, as the fact to which the “whole state of mind and body is adjusted”¹³—is not a mere logical construct from sensibles, as Mr. Russell would hold. But this involves not only essence, but affirmation; it is knowing, and not consciousness.¹⁴

Now a way out of these ambiguities seems to me to be available; it is to stick to the insight that the essence, or that which is given,

¹⁰ Cf. p. 70.

¹¹ P. 105.

¹² P. 48.

¹³ P. 46.

¹⁴ This is not the only place in which Professor Strong fails to live up strictly to his own definition of “given.” Thus twice within the three pages that immediately precede the formal list of definitions in which an object is defined as a real thing existing in one continuous time and space, and the essence as alone that which can be given, he has confused givenness with knowledge, and spoken of objects as given. (“The fact being that what is originally *given* or *known* is objects.” “It will show us how these mental facts are involved even in the cognition of physical facts, when yet nothing is given or experienced except the latter.”)

is not an object or picture or vision at all, but a logical schema pure and simple, a complex of abstract characters. The essence in knowledge is that which we *ascribe to* an object which is not as such experienced; and what we thus ascribe is no more a non-existent vision that it is a mental state. It is a "nature." It is necessary, in other words, to separate sharply the objectivity of an essence from its own given character, the former being a new fact which supervenes upon it. The essence as such is objective in the sense (1) that it is *not* subjective or mental (but rather logical), and (2) that it is in knowledge *used* to characterize an objective world; but it is not in itself individualized *as* an object. You can not, Professor Strong argues, see the existence of an object; you can only see the object and assume that it exists.¹⁵ But what is the difference between this and his own discarded phenomenalism? To be sure you can not see the existence of an object; but neither can you *see* the *essence*, as Professor Strong here seems to assert. You do literally see the *object*. But that implies that the only thing you see is the *existing object*, and not that you have an object first and then add existence to it. Knowledge, in other words, of which seeing is an instance, involves *both* apprehension of something (essence) *and* affirmation, and until you have the two together you do not get anything describable as an object; so that to call the essence alone an object is misleading. If we recognize this we can always mean by the object the independent real, as Professor Strong's definition requires. And thus only, as I see it, do we get rid of a vicious "representationism" in the sense in which Professor Strong defines the term. If by vision we mean the ghost of an object, then it is something seen, and we do not know directly; if on the other hand vision means only the *seeing*, then it is not itself the essence, but that which first must use the essence before we get any object at all.

And this appears to me not only to render a true account of the experienced fact, but to be the only way to meet satisfactorily the issues which neo-realism in particular has raised. In perception we do, it is clear, somehow seem to be in the direct presence of the object itself. And it seems plausible to interpret this as meaning that the real object is directly apprehended, or present bodily in experience; otherwise, we may be asked, are we not forced to say that what we call the object is only a subjective appearance, and so find ourselves in the toils of subjectivism? Now I gather that what is in Professor Strong's mind is this same sense of an actually experienced object which by opening our eyes we can see before us; only as on *his* showing this can not be the *real* object (since, for one thing, it may be present when no real object exists), it is translated

¹⁵ P. 48.

into the essence-object. As I have already said, however, it appears to me that if we are to free the term appearance from any taint of a subjective existence, and be able to hold that we are, as we seem to be, in the immediate cognitive presence of the real object, it can only be by refusing to talk of any object at all as given, or immediately apprehended, even an object without existence. And Professor Strong has already shown the way. There are two separate aspects of the naïve sense of actual contact with the physical world, which need to be carefully distinguished. There is, first, the vividness which attaches to those qualities that perceptually qualify the object, and which, as Professor Strong has pointed out, does not need at all to conflict with the insight that the essence is itself abstract. A vividly apprehended quality is still a quality, and not a thing. But now this vividness does not itself constitute objectivity, as is shown by the fact that what is felt as non-objective—a pain for example—may be realized with equal or greater vividness. The sense of the presence of a “real object which has the quality” must be explained differently. And I think it is possible to do this, and to give a plausible account of the immediate feeling that the real thing *is there*, without supposing that its being there means that it is directly experienced, in the sense in which the being there of the quality is just its vivid presence in experience, or its direct apprehension. The object is there in the sense that we feel ourselves directly in a practical or motor relationship to it. The experience of the object’s presence reduces, in so far as I can analyze it, to this tingling sense of *active tension*, of actual or potential adjustment, through which I realize myself as conditioned by, or dependent on, something which stands in active causal relationship to my body. The presence of the object is the presence of that which I instinctively recognize as able to affect my welfare as an organism; this ability to insure practical consequences is what I *mean* by a real thing; and the recognition is brought home to me by the tendency to muscular response which characterizes of necessity my dealings with my physical environment. Apart from this there would be no “things” in my experience, but only a variously toned field of sensuous feeling. And if objectivity is thus bound up with an experience that goes beyond immediate apprehension and reveals a world independently acting upon us, then whenever the thing-aspect of experience is involved we have, not essence and consciousness, but real existence and cognition.

As all our knowing starts from sense perception, it is not strange that in thought and memory and imagination, also, there should be reproduced, along with the group of characters, this same sense of objectivity in terms of which alone it is possible for our thinking to

deal with the real world. For it is surely so, as the neo-realists have done good service in reiterating, that we do not in thinking cognize images, but things; even when I think an imaginary object like a centaur, I am thinking a centaur, and not the image of a centaur. In thinking, it is true, I may image an object; but this very statement, if taken strictly, excludes alike the claim that the object is an image, and the claim that the essence is an object. The image is the medium *through* which I think the—independent—object. This experience I then can introspect, indeed, and recognize as involving some sort of substitute for the object, and not the actual presence, *as* an experience, of the object itself. But what I thus recognize is still not the essence; since the introspective act brings before the mind not the *characters* present in the perceptual experience simply, but likewise its objective reference as an affirmation or activity, this always possesses an "object" aspect which make it concrete and not abstract.¹⁶ For surely to image a horse is different from thinking the concept or essence horse; I can do this last only by attending to the abstract features which describe a horse, and to this process any picture of the horse as an object is irrelevant. And this is the only basis on which I am able to see the possibility of escape from the perplexities of neo-realism. If we separate the two meanings of presence attaching to the two aspects of real existence and of content, we can accept the claim that the *content* is apprehended, without having to suppose that the existent (or non-existent) object itself is there; *its* presence is, in thought, only the reproduction of the sense of "being in the presence of" which we get from the motor experience in sense perception, though with that vivid feeling of compulsion lacking which there normally assures belief.

It is partly into terms of this same ambiguity that another point of difficulty which I feel with Professor Strong's formulation of his doctrine seems to resolve itself—namely, his account of the status, as distinct from the nature, of the essence in knowledge. He has himself isolated the problem as the problem of *how* a sensation or mental image can convey an essence.¹⁷ To this question, however, he

¹⁶ So long as I talk of an "image," it is always the image of something, and I can not get away from "objectivity." Consequently the pure fact of psychological analysis on the existential side is not an image concretely as this implies a "thing," but a group of sensations or reproduced sensations, among which the motor sensations involved in the recognition of objectivity take their place. There may be a certain grouping or cohesion among these, though even this measure of unity seems to be due to the unifying activity of the organism and its needs. But the mere coalescing of sensations does not yet constitute an "object," apart from the further reference to an active center of force beyond me.

¹⁷ Pp. 111-2.

seems to me inclined to give two different answers; or rather he gives one answer, but every now and then suggests an alternative one. The explicit answer is: the essence is given through the function by which the sensation guides the organism in its adjustment to objects.¹⁸ Thus a horse has the essence "a fearful object" if the visual sensation causes him to shy; and the cat is *ipso facto* aware, when a certain sensation in her mind evokes instinctive movements of crouching and watching.¹⁹ That all we need for our analysis is the sensations called forth by the object, and the reaction or attitude to which they prompt,²⁰ is asserted more than once without qualification.

Now I can not at all feel, in the first place, that the reduction of cognition to a sensation plus a physical act is successful in meeting the full needs of the situation. We may indeed act upon the suggestion of a sensation; but the act is purely and simply physical, and as such lies outside the circle of the inner life of experience where knowing resides. It seems to me a plain matter of fact that we are aware through introspection of a situation quite distinguishable from this, to which we assign more naturally the name of knowledge; we are aware, that is, over and above the *de facto* physical response, of something describable as a conscious recognition *that* an object, felt to have a real and independent life of its own, is characterized by an immediately apprehended content. And of this persuasion Professor Strong's formulated theory gives no account at all. He does indeed provide a certain "experienced" element in the form of a "return wave" from the act of attention or adjustment, which gives a special coloring to the cognitive state;²¹ but this at best explains only our sense of activity in knowing, and not at all the special features of cognition of its content side. And Professor Strong is himself constantly using language that goes beyond his own analysis. He speaks of "conjuring up" the essence, of its being "brought before the mind," of the symbolic use of the psychic state which "gives rise to a vision-of-the-object," of essences as "loopholes through which we truly contemplate" reality.²² Surely such words as these imply more than a mere sequent fact of action. Or why speak of the given essence as "rendering the object truly,"²³ if all we mean is that the sensation (which is not the essence) produces an appropriate act?

The explanation seems to me to be that Professor Strong has in

¹⁸ Cf. p. 103.

¹⁹ Pp. 122, 137.

²⁰ P. 279.

²¹ P. 137.

²² Pp. 43, 87, 170, 235.

²³ P. 232.

mind two separate problems, which he does not sufficiently distinguish; and his more explicit doctrine has reference only to one of these, and that, for epistemology, the less fundamental one. It appears, namely, that when he talks of cognition, he intends by the term, when he is speaking strictly, only the *perceptual* experience to begin with,²⁴ and even this in a particular and narrow sense—the practical or biological sense, rather than the epistemological or contemplative one. In other words, cognition means to him that instinctive relationship in which we stand, in perception, to the physical world in terms of adjustment to the environment—a “function existing primarily for the sake of action.”²⁵ This is the fundamental evolutionary meaning of perception. The animal, or primitive man, has no concern with the question whether the characters given in perception possess true ontological significance; what he is interested in solely is its practical service as a stimulus to response, in terms of a successful carrying out of the functions of life. And so far cognition falls within the lines of Professor Strong’s theory. It is enough if the sensation serve as a mark or symbol for the guidance of action; and the truth of the cognitive process is sufficiently covered by the success of the act to which it leads. But it is necessary to note very clearly that the utility of sense experience for guiding action, and its adequacy for giving us a true account of the nature of things, or for serving as a “loophole through which we truly *contemplate* reality,” are things quite distinguishable.

And now what I wish particularly to point out is that Professor Strong is able to justify his own answer to the question, How is the essence conveyed by a sensation? only by failing again to live up to his definition of the given. “Cognition, in fine,” he writes, “is extremely simple; it is nothing but the givenness of an essence, and the acting in consequence as if an object existed.”²⁶ The essence, it appears from this (and indeed from his definitions generally), must be given before the act can follow. But before the act there is nothing discoverable except the sensation, to whose nature the essence may be, Professor Strong holds, entirely foreign. It is to be remembered once more that Professor Strong professes to distinguish givenness, or consciousness, from cognition, and that only the latter brings the physical object itself into the situation; and he expressly contrasts his own theory with that of James as a theory of consciousness *versus* cognition.²⁷ But if givenness is a function

²⁴ Cf. especially p. 228.

²⁵ P. 7.

²⁶ P. 40.

²⁷ P. 130.

of the sensation in leading to an act, what is left as a description of what he intends by cognition? Is not in fact this act just the affirmation which Professor Strong *adds* to givenness in order to explain knowledge, and which he has defined as the "implication of acting as if the object existed"?²⁸ In other words, it looks to me very much as if, contrary to his main thesis, no real distinction is left between givenness and cognition, if we are to explain givenness by a functional act. We might indeed make givenness only the *potentiality*, as against the actuality, of knowing; but I do not see that this is a significant distinction. And we should at any rate still leave unanswered the problem which Professor Strong professes to be solving—*How* does the sensation convey the essence? Even granting that knowledge is sufficiently described as organic adjustment, the meaning of this question would still be, What particular feature in the psychic state makes possible the act of adjustment? and this is not answered by reasserting the fact. And still less, if knowledge possesses a genuine cognitive as *distinct* from a behavioristic value, is the givenness of the essence accounted for by anything short of an explanation of *how* a psychic state can give rise to the recognition, *prior* to action, of a definite cognitive content assumed to be a description of the object—a situation quite ignored when to a sensation we simply add an act.

Now Professor Strong seems to me to have the true answer to this question within his grasp, without however making any use of it in his explicit theory. In most cases, he writes, "we are justified in assuming that where an essence is given an object exists, and that it has the *character given in the essence*."²⁹ Now this last phrase supposedly means, not that the sensation leads to successful action merely, but that the essence, as an essence, possesses a certain character which we believe attaches to reality. The claim of attachment to reality is what we have already called affirmation, and involves an act; but what constitutes the character given, or essence? The solution suggested more than once by Professor Strong himself is: identity of character between the sensation and the object, in so far as this is needed to justify cognitive claims.³⁰ Of course it may

²⁸ P. 111; cf. p. 48.

²⁹ P. 38.

³⁰ "In so far as a visual or tactile sensation, bearing in its own nature the impress of the object, causes the organism to react as if it were in the presence of that object, in so far the object is given as an essence" (122). "In the case of vision this sense organ is so constructed as to make the sensation a sort of duplicate or picture of the object" (129). "Something corresponding to [the qualities] must be assumed in the psychic state, in order to account for the awareness being of the qualities" (140). "With the development of sense organs objects become able to evoke within the organism impressions corresponding to if not actually resembling themselves" (172). Truth means "agreement with the portion of the environment pictured sufficient at least for the attainment of practical ends" (181).

still be said that *mere* identity here is not givenness. Nothing is given except as this given essence is also cognitively *used*; givenness is an aspect always of the larger knowledge situation. But *as* an aspect, the capacity for "conjuring up" a definite thought content, immediately apprehended, belongs not to affirmation or act, but to the psychic state in its own right, and the characters it is able to bring upon the scene. The difference which Professor Strong makes between knowing in perception an object, and knowing in thought a past experience (in which latter case he allows that the vehicle must be a mere copy or duplicate),³¹ is thus not, as he tends to make it, a difference in kind. True "contemplative" knowledge *always* involves such a copy (or identity of character); and sense perception differs from thought only in the degree in which critical reflection may throw doubt upon the full adequacy of its profession to convey, on its qualitative side, a correct description of the real world. Meanwhile for the other and psychological question, which is interested solely in the mechanism through which a sensation or image may serve as an effective cue to conduct, the whole essence concept is irrelevant; sensation plus instinct is all that we need.

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TESTS OF TRUTH

THE ancient faith that somewhere, in some form, there is such a thing as a universal criterion, a kind of philosopher's stone, the bare touch of which is sufficient to distinguish the pure gold of truth from all baser metals, is still with us, and in many disguises is strongly entrenched in modern logic and epistemology. The *dictum de omni et nullo*—that famous principle of syllogistic reasoning—still serves to separate the valid from the fallacious. The *Principle of Identity* and the *Law of Contradiction* are still invoked in the same cause, and we still have in our midst a band of true believers in the might of *Direct Intuition*, *Coherence*, *Correspondence*, and the *Inconceivability of the Opposite*. In short, wherever we have a theory of knowledge, we tend to have, among the characteristics by which it is defined or made determinate, certain attributes which come to be regarded by the faithful as infallible criteria of truth.

The object of the present paper is not to enter upon a detailed discussion of the manifold forms in which this absolutistic faith still wins its proselytes, but rather to examine the general idea which

³¹ P. 113.

gives to such a faith its meaning, to find out what can be said in its favor, to see how far, if at all, it can be of use in the discovery and organization of empirical truths, and to see where—and if possible how and why—it breaks down in practise.

I

With this aim, we shall begin by considering an instance of the actual pursuit of truth in the concrete, in the field of natural science. We have before us a dish containing a fluid which is either an acid or an alkali. We have also red and blue litmus paper. Can we, by any manipulation of universal criteria, discover whether the fluid is acid or alkali—or are we not rather compelled to apply the specific tests of experiment and observation? In seeking truth within the sphere of sensory experience, our methods of discovery, and the concrete tests which we actually employ, appear to be empirical, and to vary according to the concrete problems with which we are faced. There does not appear to be any place, in the attempt to discover concrete answers to concrete questions, for the application of any *universal* test. No doubt it is true that we are in some sense presupposing the laws of identity and contradiction, the principle of coherence, and the rest. But these principles are too general, and too remote from the concrete problem, to afford us much assistance when it comes to detailed investigation. The laws of identity and contradiction, for instance, inform us that the solution of the problem is what it is, and is not what it is not. The principle of coherence tells us that our solution will cohere with the vast body of ascertained truth in a single system. The principle of correspondence tells us that our conclusion, if true, will correspond to the facts, *etc.* But no one, and no combination, of such principles will ever inform us whether the fluid before us actually is or is not acid. In fact, these principles plainly refer rather to the organization of elements of knowledge which we have obtained elsewhere—from sense-experience. They do not seem able to increase the bounds of knowledge, but only to organize it.

They are not, however, to be regarded as entirely useless, even in the discovery of concrete answers to concrete questions. In organizing elements of knowledge obtained from sense-perception, we may, perhaps, by adopting new viewpoints and effecting novel combinations, arrive at answers which are concrete and yet are independent of further sense-experience. Every member of the congregation is desirous of discovering the age of the new minister. In the course of a sermon he happens to mention that he took part in the Spanish-American war, and in some special reference happens to state that he was only eighteen at the time. By putting together

these two items of information and comparing them with the present date, every member of the congregation at once deduces his present age, and the concrete problem has received a concrete solution. Has not this result, it might be asked, been effected by applying the general principle of coherence?

Let us consider. The actual discovery is made by subtracting 1898 from 1919, and then adding the answer (21) to 18, which gives us 39 as his present age. That is to say, the answer is discovered by subtraction and addition—operations somewhat more specific than “coherence.” And not only so, but by subtracting 1898 from 1919, and by adding the answer to 18—*i. e.*, by very specific addition and subtraction. If we were acquainted with the general principle of coherence, but did not know how to add and subtract, the problem could not be solved. And even if we were acquainted with the general types of mathematical operation, unless we also knew that we were to subtract specific numbers, and add specific numbers, the concrete question would continue to remain without a concrete solution. It looks, then, as though, even when we restrict ourselves to the *organization* of knowledge, the principles which we actually use are specific, and contain elements which are empirical, and vary from one concrete problem to another.

So far, then, as the *discovery* of concrete truths is concerned, these general criteria are of little or no assistance. But, it may be urged, their proper use is other than this. Given some discovery, derived, it may be, from sensory experience, these principles may be applied to *test* the discovery, to find out whether it is valid or not, whether it corresponds to fact, whether it is consistent with the whole body of ascertained truth, *etc.* Their proper use is thus, not originaive, but critical. They do not tell us exactly what is true, but they do help to discover what must be rejected as false, *i. e.*, as inconsistent, or not corresponding to fact, *etc.* Dialectic, then, or the science of these rules, is the *scientia scientiarum*, the universal science which sits in judgment upon the concrete “laws” proposed for general acceptance within the departmental sciences, and decides upon their consistency or inconsistency, their correspondence or non-correspondence to fact.

Good. The office of the dialectician, then, resembles the office of the book-reviewer. It requires omniscience. The reviewer must know what the facts are, before he can judge whether the suggested formula states them correctly or incorrectly. So too with the dialectician. He must know more than the departmental scientist. On the one hand, he must have a profounder viewpoint and a wider logic, and on the other, in order to apply his general touchstone to the concrete problems, he must know more than the special scientist

within his special field. He must know what the special facts are, which the scientist does not know, but is seeking to formulate. This knowledge is a *sine qua non*, whatever the criterion selected. It is as true of "coherence" as of "correspondence." To know that a given proposition is coherent with the whole body of ascertained truth, it is necessary to know, not only the given proposition, but also the whole body of ascertained truth—*i. e.*, to have at least the special knowledge of the scientist. But in order to sit in judgment upon his work and decide whether it is consistent with some higher viewpoint, it is necessary to have still further knowledge; and to decide absolutely without appeal whether it is consistent or inconsistent, true or false, it is necessary to have knowledge of the ideal system of completely consistent knowledge—*i. e.*, to have omniscience.

In order, then, to apply these criteria as universal tests of any and every concrete formulation of fact which sets up for a truth, we must have omniscience. This is, in itself, a fatal objection to the use of these general formulæ as *tests*. For, if we were not in possession of the truth, we could not apply these tests in any given case; and if, on the other hand, we were already in possession of the truth, in that case we should not require the roundabout and empirical method of trial and error which the departmental scientists use. At best, the use of such standards would be secondary, in order to inform others *ex cathedra* by how much their approximations to truth fell short of the complete knowledge which was in our own possession; and if certain members of the human race were actually in possession of this complete knowledge, they would publish what they knew, and the empirical methods of the scientist would fall into desuetude.

Again, as in discovering truth, so in testing it, it would not be the *general* criterion which would be applied, but always something more *specific*. To test the correctness of the proposition, *This liquid is acid*, we do not ask, "Does it correspond with the facts—is it coherent—is the opposite inconceivable?" We take a piece of blue litmus paper, dip it in, and see whether it turns red or not. The test *used* is concrete and specific. So too, when told that the minister's age must be 39, because he took part in the Spanish-American war at the age of 18, we test the truth of this statement by going through the appropriate numerical calculations. In actual practise, then, the general or universal criteria do not seem to be used.

There exists a further argument, of a more abstract and dialectical character, which proves, not only that the principles of coherence, contradiction, *etc.*, are useless in testing truths, but that no universal criterion whatever could be of the slightest use. The argument is as follows: Let x be any universal criterion of truth—

i. e., the law to which any and every statement which is to be recognized as true must conform. Let A be any proposition whatever, the truth of which is to be tested. Then, if A conforms to x , A is, by definition, "true." But a further question may be raised: How do we know that our application of x to A is itself correct? We must apply the test, and thus reach the conclusion, "The proposition A conforms to x itself conforms to x ." But about this test of the application of the test to A , the same question can again be asked, and we are thus led, and led inevitably, to the infinite regress.

What are we to conclude from this? To make a judgment, we reflect upon sensory experience. To test that judgment, we reflect upon that reflection. To test that further reflection, we reflect further, *etc.* We must conclude that the "further" reflections carry us no further. What we really *do* is to reconsider the evidence, to go over the ground again, and repeat the experiment. If our repetition leads us to a different conclusion, we believe that we simply did not *think* the first time. If, however, on going over the evidence, we come to the same conclusion, we regard that conclusion as, so far, established. The test of truth, then, which is actually applied in practice, seems to consist in *repeating the specific experiment*, or in having others repeat it, so as to confirm our results—and not in applying any general or universal test such as coherence, correspondence, *etc.*

Finally, however, we must note that there is no virtue in repetition as such. If we can not be certain of a proposition the first time we make a judgment, will one, two, three, four, n repetitions give us the required certainty?—The idea is, on the face of it, preposterous. Repetition is clearly an external device, a caution to ensure that we really think, really reflect upon the concrete situation with which we start, omit nothing, neglect no circumstance that is relevant. As a rule, it is the imperative, Be thorough! It bids us, when we reflect upon our concrete problem, really to reflect, and not to leap to conclusions. Such an imperative, however, is no *test* of truth. For a test, in order to be used as a test, must be different from what is tested—*e. g.*, as blue litmus paper is different from acid. But in this case, the "test" actually employed by the scientist is not different from the original experience in all its concreteness. They fall together. The concrete "test" of a concrete scientific proposition, then, is nothing more or less than all the evidence upon which the proposition rests. This will plainly differ from one problem to another, and will be empirical, concrete, and particular. Expressed in terms of the symbolism suggested above, either x is different from A —as a universal test differs from a particular proposition—in which

case we fall into the infinite regress, and can never apply our test to the particular proposition; or x and A coincide—in which case we are left with particular truths, each with its own concrete experience as its guarantee, but without any *universal* criterion. Our conclusion thus is, that to apply any universal criterion to any concrete proposition requires omniscience, and that short of omniscience it can not be done. We fall into the infinite regress in the attempt; for “Truth” is infinitely distant. There is a gap between absolute Truth, on the one hand, with its universal and necessary criteria *a priori*, and on the other hand the concrete truths, with which human experience, and the specific sciences gradually built up on the basis of that experience, are concerned. Each specific science has its own specific tests—the concrete evidence upon which its (empirical) laws are based. But from a human point of view we have only the departmental sciences, the specific problems, each with its specific evidence. There is, from this viewpoint, no *scientia scientiarum*, no universal science of dialectic applying its *a priori* tests of Truth to the loose and uncertain approximations of empirical science.

II

In the above, what is our position? We have drawn a sharp distinction between the absolute and the empirical, between dialectic and science, and have argued that the gap between these can not be bridged by any amount of human speculation which starts from the more metaphysical side. It looks as though we have duly noted the existence of a state of war between science and the forces of transcendentalism, and have definitely associated ourselves with the forces upon the side of science. What, it might well be asked, is our position but that of the Pragmatist, throwing yet another stone at the now discredited bugaboo, absolute idealism?

This impression, natural as it might seem, is too hasty. We have pointed out that, in spite of the distinction between our more metaphysical and our more empirical thinking, there are, in the camp of the idealists, many weaker brethren, whose faithfulness—i. e., uncritical acceptance of illegitimate consequences of the idealistic position—leads them to attach to certain attributes of knowledge in the idealistic theory a value which these attributes do not possess. Our conclusion is that such attributes can not be used as universal tests of concrete truths. The gap remains, and can not be bridged as the faithful, but uncritical, brethren believe. This reasoning is directed only against the *uncritical* idealist, the tender-minded brother who seeks in absolutism a refuge from the storm and stress of empirical problems, and from the viewpoint of a romantic idealism of the imag-

ination condemns the unromantic but very necessary work of the practical scientist.

Not all idealists, however, are thus to be lumped together as "tender-minded" refugees from the world of work-a-day wrestling with the obstinate problems of concrete life and science. There is an idealism of the will as well as an idealism of the imagination. There is a critical, as well as an uncritical idealism. It is perhaps only fair that we should set forth, in brief outline, the theory which remains untouched by our criticisms.

For the theory of critical idealism, there exists a gap between empirical truths on the one hand, and metaphysical Truth on the other, and it is considered hopeless to attempt to bridge this gap from the more metaphysical side. It remains, however, to attempt to bridge the gulf from the more *empirical* side, acquiring ever more and more scientific observations, and organizing these more and more, so that in time our empirical knowledge will gradually approach more nearly the ideal of knowledge organized into a single perfect system. The use of the concept of a more perfect knowledge is not as an absolute test for the discrediting of empirical formulations in favor of some mystical contemplation, but as a practical vision which shall definitely encourage and guide our steps. It is a stimulus to renewed effort, and consists in a consciousness of the development of science into better science. There is nothing about it which can be regarded as "absolute." It arises from reflection upon the progress of science in the past. This leads to an ideal continuation of the curve of scientific progress into the not-too-distant future, and thus gives us a standard which is not static, fixed, and absolute, but develops with the advance of scientific knowledge, beckoning us always further forward, towards a better, finer, truer, more scientific knowledge. The uncritical idealistic viewpoint gives us a static Superlative—infinite, absolute, unimprovable Truth—utterly removed from human concerns, and so far above human aims that it remains an object for ecstatic contemplation only, divorced from action. The critical viewpoint gives us no Superlative, but a Comparative, firmly based upon human experience in the past, and pointing towards its gradual realization in every step forward which knowledge takes in the present and not-too-remote future. For the critical idealist, the ideal of truth is a not-too-remote vision which guides and stimulates us in its quest—a quest continuous with present scientific advance. The tests of concrete truths remain empirical, scientific, and human—pointing, however, always a little beyond what has actually been attained. As to an absolute or universal criterion of Truth, however, from this standpoint there is no such thing.

RUPERT CLENDON LODGE.

REVIEWS AND ABSTRACTS OF LITERATURE

A Survey of Symbolic Logic. C. I. LEWIS. Berkeley: University of California Press. 1918. Pp. iv + 406.

This work, which appeared among the Semi-centennial Publications of the University of California, fills an important hiatus in the literature of logistics and mathematical logic. These studies are of so recent an origin that there has been till now no opportunity to consolidate into a single treatise anything but their most simple and primitive aspects. Accordingly the student, after leaving the almost childishly simple Boolean algebra as presented in the writings of Couturat and del Ré, is immediately confronted with that forbidding monument of patience and research, the *Principia Mathematica* of Whitehead and Russell. He encounters an unfamiliar symbolism, new methods, and a most exacting standard of rigor. It is only after he has become proficient in this new field that he can discern the fundamental unity underlying the investigations of Boole, De Morgan, Peirce, and Schröder, on the one hand, and those of Frege, Whitehead, and Russell, on the other.

Professor Lewis has written a work that completely bridges over the gap between the old and the new. He treats the history of symbolic logic in an impartial and comprehensive way, slighting neither the founders of the classical theory nor the principal innovators of the present day. After a good résumé of the classical theory of equations and inequations, he proceeds to a parallel development of the foundations of the logic of propositions, propositional functions, and classes on the Boole-Peirce-Schröder basis and on that of the *Principia*, exhibiting both the formal identity of the two systems and the inadequacy of Peirce's enumerative method of defining universal and particular propositions in terms respectively of iterated logical multiplication and iterated logical addition. There is a mass of excellent detail work in this connection, so that this part of the book should prove useful as a glossary for those who desire to transfer statements from the Peirce symbolism to that of Russell and *vice versa*.

Chapter V is devoted to Professor Lewis's personal contribution to the subject—the calculus of strict implication. This valuable piece of work is here for the first time gathered together in a unified and definitive presentation. It unquestionably constitutes a legitimate alternative to the "material implication" of the earlier writers, but the reviewer does not consider that it has been definitely established that "strict implication" is not simply formal implication between propositional functions whose variability is suppressed.

The last chapter concerns the relations between logistic and

mathematics. The Russellian view is fairly expounded, but the author also develops a "heterodox" standpoint, from which both logic and mathematics become a manipulation of symbols by a method of substitution whose laws can never be stated exhaustively in a symbolic form. This constitutes a perfectly just criticism of the part played by non-symbolic postulates in the *Principia*. Lewis is quite right in pointing out that the postulates of the *Principia* differ from other postulates in degree rather than in kind.

Among other things, Lewis contrasts the encyclopedic logic of Peano, the deductive logic of Russell, and the synthetic logic of Royce, in which many types of order are obtained by the specification of a more general, inclusive order. A notion not introduced by Lewis, but worthy of comment in this connection, is that of categoricity with reference to a particular set of concepts, introduced into mathematics by R. L. Moore. Moore has pointed out that a non-categorical set of postulates may still completely determine the formal properties of some notion that may be obtained from the undefined terms. A set of very few postulates—even a set of no postulates at all—may thus determine a number of completely specified notions, if used in conjunction with the appropriate definitions. It is hence possible to build up a theory of order—that is, a logic—based primarily or even exclusively on definitions instead of on postulates. This, I imagine, is more or less what the Royce logic proposes, and what Mr. Lewis considers a promising alternative to more developed methods.

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The Field of Philosophy. JOSEPH ALEXANDER LEIGHTON. Second revised and enlarged edition. Columbus: R. G. Adams and Company. 1919. Pp. 475.

To write a satisfactory Introduction to Philosophy is no mean task. Those who have tried it will, I am sure, agree with me in this statement. Especially is it difficult in this period of the renewal of philosophy, when there is such an apparent diversity of opinion, when philosophy is like a vine full of sap sending tendrils in every direction.

There are two ways of approach to the study of philosophy, the historical and the analytic. I do not mean to assert that one of these ways must exclude the other, but only that one of them must dominate. Professor Leighton realizes that "the History of Philosophy should be a second course." Yet he is also aware that "a purely topical and systematic introduction fails to bring the student in contact with the great historical doctrines in other than the scrap-

piest fashion." Hence his own method is an attempt to combine the two ways of approach. The only difference of opinion of any value can, I believe, concern the blending of these two elements. Is there enough unity? Are typical philosophical problems brought out clearly before the attention of the student?

The Field of Philosophy falls into two parts: The Chief Problems and Standpoints of Greek and Medieval Philosophy, and The Chief Problems and Standpoints of Modern Philosophy. When one examines the chapter-headings, one soon sees that practically all the topics which have arisen in the history of philosophy are touched upon. The book is systematic and, for an introductory text, decidedly exhaustive. The references at the end of each chapter will enable the enterprising student to supplement the summaries given in the text. There is thus a plenitude of material. My only fear would be that some of the students would be overwhelmed by the detail of the treatment. Since Professor Leighton has worked out his text in the class-room, I suppose that my fear is groundless.

The historical side of *The Field of Philosophy* is admirably done. I do not think that any one who used this text would find many points of interpretation to differ upon. I have, for instance, found his treatment of Primitive Thought in Chapter II. especially well worth while. Assuredly, more of our students should know what the primitive view of the world was and how much of this natural, early outlook still lingers with us.

I presume that it is in the systematic part of an Introduction that the particular view of the writer is bound to come to the front. How far should an Introduction be a presentation of various standpoints? To what degree should it stress one beyond others? This is the crux of the problems. Professor Leighton evidently tries to be fair to all points of view, but—and I think very rightly—indicates his own outlook, a modified form of objective idealism.

In his epistemology, he champions what he calls Critical Realism. Of course, a term in philosophy seldom has a fixed meaning. Yet I have so completely identified my own outlook with this term that I was interested in discovering what Professor Leighton meant by it. "It may be objected to this view that what we mean by a real thing is the thing as it exists independently of our perceptions. To this I reply, yes and no! Independent of *my* perceiving it, yes! But no meaning can be attached to the idea of an object existing independently of *anybody's* perceiving it" (p. 356). To me, at least, this is nearer idealism than realism. Yet we have in Leighton's book, as in those of Pringle-Pattison and Mackenzie and others of the idealistic tradition, a swing toward realism and a desire to get away from any taint of Berkeleian subjectivism.

The mind-body problem is to the average student quite strategic in its importance. I have found the author's presentation of his own view interesting. So far as I can grasp it, I find it analogous to Leibniz's solution. There are three grades of individua: (a) Inorganic or Physical Individua; (b) Vital Individua or Monads; and (c) Mental Individua or Selves. I am not clear in my mind whether he thinks of these three grades as levels of evolution or flat differences in kind.

The last few chapters are devoted to an exposition of the various philosophical disciplines. The chapter on The Philosophy of History is very good. So are the treatments of Psychology, Logic and Social Philosophy. There is, perhaps, a little more exhortation in the discussion of Philosophy of Religion than suits the naturalist's taste. The appendix contains a study of contemporary movements in philosophy. In this he shows scholarship and acuteness.

There will, I think, be general agreement that Professor Leighton has produced a high-grade piece of work. If it is just a trifle ponderous at times, it makes up for this by completeness and scholarship. He is quite evidently a genuine philosopher who has thought things out for himself.

ROY WOOD SELLARS.

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JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. March-April, 1919. *La psychologie, ses divers objets et ses méthodes* (pp. 177-221): A. LALANDE. — A historical sketch, followed by a résumé of positions on the subject of the province, objects, and methods of psychology. *Esthétique et mémoire. Du rôle de la mémoire dans la perception du Beau réalisé par l'Art* (pp. 222-250): E. D'EICHTHAL. — The rôle of memory is "the establishment in time or space of a solidarity of elements which contribute, by their connections, to the impression of a whole that satisfies completely our sense of perception. From this establishment grows the feeling of a result which constitutes esthetic realization . . . whatever may be its limits and particular forms, the enjoyment of the beautiful does not exist without the preliminary work of memory, which reunites and solidifies the elements while organizing them into an image of a whole endowed with a certain persistence, first on the part of the creative artist, and then on the part of auditor on spectator." *La dynamique cérébrale* (pp. 251-269): GEORGES BOHN. — An exposition of Bohn's law of reciprocal phenomena: "When an action produces on a body in

equilibrium a modification of condition, this is accompanied, under very general conditions, by a secondary phenomenon, called the *reciprocal phenomenon*, which reacts on the initial action; the nature of the reciprocal phenomenon is always such that it tends to oppose itself to the continuation of the modification produced." The law is applied to cerebral phenomena. *L'X objectif conscient* (pp. 270-318): PAUL DUPONT.—"By means of objective psychology we apprehend that the given, the phenomenon, appearance, is an event in an element of material objectivity, and as objective, is a function of events in other parts of the objective. Whatever the phenomenon, it is for the subject as a fact of conscience, the contrary of a phenomenon, since the latter does not appear to him who observes the concomitant phenomenon in the brain of the subject. The spiritualists think that in man at least the objective *x* decomposes into two *x*'s, distinct, and independent." . . . No argument of scientific value can settle this problem that breaks out as a result. "The fact of consciousness is the establishment in and by certain objective '*x*'s of a particular kind of certain of their variations, functions of the other '*x*.' The objective of which we are conscious is then in the class of the first '*x*'s. It is certain that each of them comprises, as an essential constitutive element, the objective *x*, which has for its phenomenal manifestation the organized body or one of its parts, the brain. It is not possible to affirm scientifically that there is not in man another constitutive element, destitute of phenomenal manifestation, but nothing that we have so far seen indicates its existence." *Notes et Documents. Notes sur la mémoire*: LUCIEN ARRÉAT. *Analyses et Comptes rendus*. José Ingenieros, *Proposiciones relativas al Porvenir de la Filosofía*: J. PÉRÈS. Giuseppe Saitta, *Il Pensiero di Vincenzo Gioberti*: J. PÉRÈS. Frederick J. Teggart, *The Processes of History*: LUCIEN ARRÉAT. *Revue des Périodiques*.

Briffault, Robert. *The Making of Humanity*. London: George Allen & Unwin. New York: Macmillan Co. 1919. Pp. 371.

Macintosh, Douglas Clyde. *Theology as an Empirical Science*. New York: Macmillan Co. 1919. Pp. xvi + 270. \$2.

Partridge, G. E. *The Psychology of Nations: A Contribution to the Philosophy of History*. New York: Macmillan Co. 1919. Pp. x + 333. \$2.50.

NOTES AND NEWS

The National Research Council has sent us the following news item:

"DR. W. V. BINGHAM, Head of the Division of Applied Psychology of the Carnegie Institute of Technology at Pittsburgh, has been

appointed Chairman of the Division of Anthropology and Psychology of the National Research Council. Dr. Bingham is an authority on methods for measuring the intelligence of normal adults. Early in the war, as Secretary of the Committee on Classification of Personnel of the Army, Dr. Bingham applied these methods to testing the mental capacity and fitness of recruits as a basis for assignment and training for particular military duties, and later continued this work as Lieutenant-Colonel in the Personnel Branch of the General Staff.

“At present Dr. Bingham is connected with several bureaus of the Carnegie Institute, which are engaged in studying the application of these principles in commercial and industrial occupations. One of these bureaus, that of Personnel Research, is supported by annual contributions from 30 corporations. This bureau is engaged in ascertaining the best methods for selecting and developing executives, salesmen, and clerks. Another bureau is applying the same principles in developing methods for selecting and thoroughly training workers in about 900 positions in seven of the leading department stores of Pittsburgh. These stores contribute \$32,000 annually for these investigations. The financial support given this work of investigating and applying scientific mental tests reveals the confidence which is being placed by corporations and store executives in the money value of a rational study of their employment problems.”

The other members of the Division of Anthropology and Psychology, besides Dr. Bingham, are as follows:

Representatives of Societies

AMERICAN ANTHROPOLOGICAL ASSOCIATION

FRANZ BOAS, Professor of Anthropology, Columbia University, New York City.

ROLAND B. DIXON, Professor of Anthropology, Harvard University, Cambridge, Massachusetts.

J. WALTER FEWKES, Ethnologist, Bureau of American Ethnology, Smithsonian Institution, Washington, D. C.

A. L. KROEBER, Curator of Anthropology, Museum of Anthropology; Professor of Anthropology, University of California, Berkeley, California.

BERTHOLD LAUFER, Curator of Anthropology, Field Museum of Natural History, Chicago, Illinois.

CLARK WISSLER, Curator of Anthropology, American Museum of Natural History, New York City.

AMERICAN PSYCHOLOGICAL ASSOCIATION

- JAMES R. ANGELL, Dean of the Faculties of Arts, Literature, and Science, and Head of the Department of Psychology, University of Chicago, Chicago, Illinois.
- RAYMOND DODGE, Professor of Psychology, Wesleyan University, Middletown, Connecticut.
- W. D. SCOTT, Professor of Psychology, Northwestern University, Evanston, Illinois; Associate Director, Bureau of Personnel Research, Carnegie Institute of Technology, Pittsburgh, Pennsylvania.
- C. E. SEASHORE, Dean of the Graduate College, and Professor of Psychology, State University of Iowa, Iowa City, Iowa.
- E. L. THORNDIKE, Professor of Educational Psychology, Teachers' College, Columbia University, New York City.
- G. M. WHIPPLE, Professor of Educational Research, University of Michigan, Ann Arbor, Michigan.

Members at Large

- S. I. FRANZ, Scientific Director, Government Hospital for the Insane, Washington, D. C.
- P. E. GODDARD, Curator of Ethnology, American Museum of Natural History, New York City.
- ALEŠ HRDLIČKA, Curator of Physical Anthropology, American Museum of Natural History, New York City.
- L. M. TERMAN, Professor of Education, Leland Stanford Junior University, Stanford University, California.
- A. M. TOZZER, Assistant Professor of Anthropology, and Curator of Middle American Archaeology and Ethnology, Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge, Massachusetts.
- MARGARET F. WASHBURN, Professor of Psychology, Vassar College, Poughkeepsie, N. Y.
- A representative of the Government Division.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

CHRISTIANITY AND HISTORY

I. INTRODUCTION

THE great historians of antiquity were writers of modern history. Herodotus, Thucydides, Polybius, Tacitus, were interested in what had happened because of what was happening, and great things were happening in their day. Herodotus writing, as he said, "in order that the great and wondrous deeds of both Greeks and barbarians may not be effaced by time" massed his facts around that world-stirring crisis which had just been passed, the Persian wars, Thucydides, persuaded that "former ages were not great either in their wars or in anything else," believed that the war that passed before his eyes was the greatest event in the world's history, and he bent his life's energies to describing it. Polybius, too, carried off to Rome in the track of her victorious armies, saw as a captive the miraculous dawn of that first empire of the Mediterranean world, and he wrote his history to explain it. "Who is so poor-spirited," he says, "or so indolent as not to want to know by what means the Romans in something less than fifty-three years subdued the world." Livy's vision was also always fastened upon the imperial present and the calm, clear-headed patriotism which had brought it about. Tacitus lacked this generous enthusiasm, but his interests were never antiquarian; the great age in which he lived drew his observation and supplied him with his task. From the clash of East and West in the Ionian cities in the sixth century B.C., whereby the critical curiosity of men and societies was first made active, to the tragic close of the drama of the ancient world, almost a thousand years later, history was centered upon the few great epochal events and the characters that dominated the world in which each writer lived.

But there was one event of supreme importance that had no Herodotus to gather up its priceless details, no Polybius to weld it into the world's history with scientific insight and critical acumen—the rise of Christianity.¹ The product of obscure enthusiasts in an

¹ Cf. V. Soden, *Das Interesse des Apostolischen Zeitalters in der Evangelischen Geschichte*, in *Theologische Abhandlungen*.

obscure and despised oriental people, it did not win more than a disdainful paragraph (in Tacitus) at the hands of pagan historians. Its own writings were but poor attempts at history compared with what other lesser events produced. When the scanty texts of the sayings and doings of Jesus were taking the shape in which we have them now, a Plutarch was writing biographies of all the pagan heroes. But no Christian Plutarch appeared for another three centuries; and then all that the learned Jerome was able to preserve for us was three or four paragraphs on the lives of the leading apostles.²

There were several reasons for this. In the first place Christianity began in a most humble way and among the unlettered. It did not burst out in a flame of conquest like Mohammedanism, but crept, half-hidden, along the foundations of society. Its very obscurity left little to chronicle. If it changed the lives of men, they were lives too insignificant to be noticed by history. Only in the present age, after democracy itself has learned to read and begun to think, is the historian awakening to the spiritual forces in the lives of the obscure. But even now we pay little attention to such seemingly extraneous elements as the beliefs of foreign immigrants settled in our city slums—the class that furnished the majority of the early converts to Christianity. In any case the Greco-Roman world troubled itself little about the history of the Jews and less still about that of the Christians.³

Even when Christianity had penetrated the society of the learned, moreover, it stimulated little historical investigation. Pagan savants, like Celsus,⁴ sometimes challenged the sources of Christian tradition and scripture,⁵ but for the most part the great controversy between Christian and pagan writers took place in fields that lay beyond the scope of history. Christianity was a religion, not a thing of politics, and although, as we shall see, the problem of fitting it into the Jewish and then into the gentile setting did involve historical conceptions, yet the main interests awakened by it were

² Jerome's *De Viris illustribus*, written after the model of Suetonius' *Viri illustres*.

³ The emphasis which subsequent ages has placed upon references to Judaism and Christianity in pagan writers has given those passages an altogether factitious prominence. There are at best only a very few, and those are mostly either incidental or pointed with ridicule. Cf. Th. Reinach, *Textes d'Auteurs grecs et romains relatifs au judaïsme, réunis, traduits et annotés* (1895); the opening sections of the monumental work of Jean Juster, *Les Juifs dans l'Empire romain, leur condition juridique, économique et sociale*, 2 vols., 1914. Emil Schürer's *Geschichte des jüdischen Volkes im Zeitalter Jesu Christi* (3 vols., 1901–1911, also in English translation) remains the standard work on the period. See also articles in the Jewish Encyclopædia dealing with the Diaspora.

⁴ See below.

⁵ As Apion did those of the Jews.

theological. This meant that history, as a record of mere human events, was bound to suffer; for the theology, in so far as it concerned itself with those events, sought to transfer them from the realm of human action to that of divine grace, and so to interpret the phenomena of time and change in terms of a timeless and unchanging Deity.⁶ The western world has since gratefully built its theology upon the conceptions so brilliantly worked out by the Fathers, and the historian whose business it is to register the judgments of society can not fail to appreciate their great formative influence in the history of thought. But their very success was a loss to history; for it placed the meaning of human effort outside the range of humanity, and so impressed upon the western world a fundamentally unhistorical attitude of mind.

The motive force which accomplished this theological victory was faith. Faith was the chief intellectual demand which Christianity made of its converts.⁷ By it the mind was enabled to view events in a perspective which reached beyond the limits of time and space into that imaginary over-world which we know as Eternity. Faith did more than remove mountains, it removed the whole material environment of life. There have been few such triumphs of the spirit as it achieved in those early days of the new religion. But the fact remains that this achievement was largely at the cost of history. Faith, one can see from the criticism of those first really conscious historians, the Ionian Greeks, is an impediment to genuine history, unless the imagination which it quickens is kept within control. The historian needs rather to confirm his imagination with skepticism and to be more upon his guard against believing whenever he feels the will to believe than at any other time—which, in the realm of religious virtues has generally been mistaken for a sin.⁸ Moreover, over and above the fact that faith puts a premium upon credulity,⁹ it indicates an absence of any real, serious interest in historical data. When one "takes a thing on faith," it is because one is intent upon using it for something else of more importance—

⁶ It is significant to see how the conception of the essential unhistoricity of God, as a Being beyond the reach of change, has been growingly modified in modern times. The increase in the number of those mystics who have revised their theology in terms of modern science and philosophy (especially Bergsonian), is, from the standpoint of the history of pure thought, the most decisive triumph of the historical spirit. The Deity himself becomes historical; eternity disappears; all is time—and change.

⁷ Charity was hardly an intellectual virtue, at least as conceived by the Fathers.

⁸ There are all kinds of faith, to be sure. We are speaking only of religious faith, which transfers phenomena from the natural to the supernatural world and is, therefore, the chief opponent of rationalism.

⁹ As Celsus, the pagan critic, so cogently suggested.

so important, indeed, that often while still unrealized it can clothe with reality the very condition upon which it depends. Thus the "will to believe" can master phenomena in a way not permitted to historians. Faith and scientific history to not readily work together.

If this is clear in the dawn of Greek history, when science conquered faith, it stands out even more clearly still in that very antithesis of the creations of Hellas, which we may best term the gospel according to Paul.¹⁰ Nowhere else in the world's literature is there a call to faith like that of Paul, and few, even of the great creators of religious doctrine, have been more indifferent than he to the historical data, upon which, in the order of nature, that faith would seem to rest. The Apostle to the Gentiles cared little for the details of the life of Jesus, and boasted of his indifference.¹¹ He learned of the divinity of Christ by a flash of revelation which marked him out as one of the prophets. Then the desert, rather than Jerusalem, furnished him that tremendous plan of Christian doctrine upon which Christian orthodoxy still rests, which included the whole drama of humanity from the Creation and the Fall to the Redemption and the vision of its meaning, revealed on the road to Damascus. The plan was based upon the law and the prophets, but only because Paul's thought ran in terms of their teaching. His scheme was one that needed no verification from the sources even of sacred scripture, if once it could carry conviction by inner experience.¹²

Finally the faith of early Christianity was largely involved in a doctrine which centered attention not in this world but in the world to come; and the world to come was about to come at any moment. Immortality for the individual was a doctrine shared by other mystery religions of the pagan world; but only Christianity developed—out of the apocalyptic literature of the Jews—the vaster dream of an imminent cataclysm in which the world to come should come for all at once. While this doctrine appears in full force in Christian circles only from the latter part of the first to the middle of the second century, and was most developed in circles given over to what might be viewed, even by ecclesiastics, as extreme spirituality, it undoubtedly had a large and damaging influence upon Christian historiography. There is nothing which so effectively destroys our interest in the past as to live under the shadow of a great and impending event. It would not have been the same had each indi-

¹⁰ And we must regard Paul as the intellectual creator of Christian theology.

¹¹ *Cf.* the first, second and third chapters of Galatians.

¹² The Pauline doctrine involved a conceptual parallel to history, which apparently furnished a better past to the world, one more reasonable and more probable than that which actually had been the case.

vidual convert merely been keenly aware of the shortness of his own life and the vision of the coming day of judgment. That is still and has always been a perspective before religious minds; and however strange it may seem, it does not entirely kill the interest in the origin and evolution of these things which are so soon to vanish from before the eyes of death. Such is the vital instinct in us.¹³ But it is a different thing for heaven and earth and all mankind to pass away at once as these early Christians expected them to do at any time. A few years ago we were to pass through the tail of a comet and there was some speculation as to whether its deadly gases might not exterminate all life on this globe. Had the probability been more probable, had astronomers and men of science determined the fact by some experimental proof, with what breathless and hypnotic gaze we should have watched the measured coming of that star across the gulfs of space! Our vast, unresting industries would cease; for there would be no to-morrow to supply. Our discoveries in science, our creations in art would be like so many useless monuments in an untenanted world—and science and art would have no incentive to go on. The one interest for us all would be that growing point of light—that doom, swift, inevitable, universal. Here comes a problem in psychology. For as a matter of fact that same doom is coming; we know it with absolute certainty; we know there can be no escape. How many of those who saw that comet pass will be alive fifty years from now? In a century, at most, the earth will be the sepulcher of all—just as much a sepulcher as if the race had perished in one grand catastrophe. And what a little interval is a century! Yet our mills worked on, our discoveries continued, our art went on producing its visions of beauty; and above all, we increased our interest in the distant past, digging for history in the hills of Crete and Asia and working as never before to rescue and reconstruct the past from archives and libraries. Why? Because humanity is more to us than our individual lives; and the future is a reality through it. If humanity were to disappear and no future be possible we should lose our reckoning, along with our sense of values, like Browning's Lazarus, who has had a vision of eternity, but has lost track of time.

So it was in the millennial atmosphere of the early church. However vaguely or definitely the triumph of "the Kingdom" was

¹³ The influence of the belief in immortality upon historical perspectives invites our attention here; but the subject is too intricate for hurried consideration. Undoubtedly the emphasis upon a contrast between time and eternity obscured the understanding of the meaning of phenomena in their time-setting.

reckoned,¹⁴ the belief in its approach carried the mind away from earthly affairs and their history. Men who drew their inspiration from it had but little interest in the splendor of a Roman state or in the long procession of centuries in which were painfully evolved the institutions of pagan law and government, institutions which not only safeguarded the heritage of antique culture but made possible the extension of Christianity.

The only history of importance to the Christian was that which justified his faith, and it all lay within the sacred writings of the Jews. So, as the vision of the judgment day became fainter and the Church proceeded to settle itself in time and not in eternity it looked back to a different past from that which lay beyond the

¹⁴ The conception of a millennium, drawn from the later Jewish literature, was that Christ and his saints would rule for a thousand years; but in spite of much calculation the belief was never quite reduced to successful mathematics. It is interesting, in passing, to see how it drew upon that other interest in chronology, the plotting out of a future instead of a past, which astrology best illustrates. In fact the millennium may be said to be a sort of Christian equivalent for astrology. In the earlier prophets the Messianic Kingdom is to last forever (*cf.* Ezekiel, 37:25, *etc.*), a conception found also in the apostolic age (John, 12:34). Jeremiah, however, had risked a prophecy of Jewish delivery from captivity at the end of seventy years (25:12), but when his dream of deliverance was not realized the later prophets had to find an explanation, and apocalyptic literature developed a reckoning which should save the validity of the earlier. This was definitely the occasion of Daniel's attempt (chapter 9), which has taxed the mathematics of every apocalyptic dreamer to the present day. The conception of a thousand years came late, and perhaps rests on very extended use of symbolic interpretation. According to Psalms 90:4, a day with God is as a thousand years. Combine this with the six days of Creation in Genesis and by analogy the world's work will go on for six such days, or six thousand years, and then the Messiah will reign for a Sabbath of a thousand years. This idea is found only once in the Talmud. It was developed in detail, for Christians, in Revelations (*cf.* 20:4, "They lived and reigned with Christ a thousand years"). Through Jewish and Christian apocalypses the doctrine was taken up, sometimes with, sometimes without, the mathematical data. By the middle of the second century it began to subside, and although Montanism in the early third century revived it, it was henceforth regarded as somewhat tinged with heresy and Judaism. In the learned circles, Neoplatonic mysticism, as taught by Origen, superseded the crudities of the millennistic faith. "It was only the chronologists and historians of the church who, following Julius Africanus, made use of apocalyptic numbers in their calculations, while court theologians like Eusebius entertained the imperial table with discussions as to whether the dining-hall of the emperor—the second David and Solomon, the beloved of God—might not be the new Jerusalem of John's Apocalypse." (A. Harnack, article "Millennium" in *Encyclopædia Britannica*. This article furnishes an admirable survey and bibliography. See the treatment of Christian eschatology in the various works of R. H. Charles in the field of apocalyptic literature.)

pagan world. The sacred scriptures of the Jews had replaced the literature of antiquity. A revolution was taking place in the history of history. Homer and Thucydides, Polybius and Livy, the glory of the old régime, shared a common fate. The scientific output of the most luminous minds the world had known was classed with the legends that had grown up by the campfires of primitive barbarians. All was pagan; which meant that all was delusive and unreliable except where it could be tested in the light of the new religion or where it forced itself by the needs of life into the world of common experience.

There is no more momentous revolution in the history of thought than this, in which the achievements of thinkers and workers, of artists, philosophers, poets and statesmen, were given up for the revelation of prophets and a gospel of worldly renunciation. The very success of the revolution blinds us to its significance; for our own world-view has been molded by it. Imagine, for instance, what the perspectives of history would have been had there been no Christianity, or if it had remained merely a sect of Judaism, to be ignored or scorned! Religion carried history away from the central themes of antiquity to a nation that had little to offer—except the religion.

The story of Israel could not, from the very nature of its situation, be more than an incident in the drama of nations. The great empires of the east lay on either side of it, and the land of promise turned out to be a pathway of conquering armies. From the desert beyond Jordan new migrations of Semite nomads moved in for the plunder of the Jews as the Jews themselves had plundered the land before. On the west Philistine and Phœnician held the harbors and the sea. Too small a nation for a career of its own, exposed and yet secluded, the borderer of civilization, Israel could produce no rich culture like its more fortunately situated neighbors. When unmolested for a time, it too could achieve rapid progress in its fortress towns. But no sooner was its wealth a temptation than the Assyrian was at the gates. It is small wonder, then, if in spite of the excellence of much of the historical literature embedded in the Old Testament, even the best of it, such as the stories woven around the great days of Saul and David, when compared with the narrative of Polybius or even with that of Herodotus leaves the picture of petty kinglets of an isolated tribe, reaching out for a brief interval to touch the splendors of Tyre and Sidon, and vaguely aware of the might and wealth of Egypt.

The one contribution of the Jews to the world was in a field which offers history few events to chronicle. As we have insisted above, it was a contribution of the first magnitude, to be treasured by succeeding ages above all the arts and sciences of antiquity. But

its very superiority lay in its unworldliness, in its indifference to the passing fortunes of man or nations, which make up the theme of history. This at least was the side of Judaism which Christianity seized upon and emphasized. But there could be little for history in any case in a religion born of national disaster and speaking by revelation. The religion which is born of disaster must either falsify realities by a faith which reads victory in defeat—like the inspiration of Mahomet fleeing on his camel from the victorious unbelievers, yet chanting, “Who hath given us the victory!” Or it must take refuge in the realm of the spirit, where the triumphs of the world, its enemy, are met with indifference or scorn. In either case the perspective is distorted. Revelation may save the future by stirring hope and awakening confidence; but it will falsify the past with the same calm authority as it dictates the conduct of the present—falsify, that is, in the eyes of science. In its own eyes it is lord of circumstance and master of phenomena, and the records of the centuries must come to its standards, not it to theirs.

It was, therefore, a calamity, for historiography, that the new standards won the day. The authority of a revealed religion sanctioned but one scheme of history through the vast and intricate evolution of the antique world. A well-nigh insurmountable obstacle was erected to scientific inquiry, one which has at least taken almost nineteen centuries to surmount.

Not only was the perspective perverted, and the perversion made into a creed, but the stern requirements of monotheistic theology placed a veritable barrier against the investigation. The Christian historian was not free to question the data as presented to him, since the source was inspired. He might sometimes evade the difficulty by reading new meanings into the data and so square them with the rest of history, a device employed by every Father of the church whose erudition and insight brought him face to face with the difficulties of literal acceptance of the scriptures. But however one might twist the texts, the essential outlines of the scheme of history remained fixed. From the prophets of Jahve with their high fanaticism and from Paul, the prophet of Jesus, there was but one world-view, that dominated by the idea of a chosen people and a special dispensation. The only difference between Christian and Jewish outlook was that what had been present politics became past history. The apostle to the Gentiles did not give up the Jewish past. Pre-Christian history was in his eyes the same narrow story of exclusive providence as it was in the eyes of the older prophets. Gentiles had had no share in the dispensations of Jahve; it was only for the present and future that they might hope to enter into the

essential processes of historical evolution. The past to Paul was what it was to a Pharisee.

This exclusive attitude of Christianity with reference to the past was in striking contrast with the attitude of contemporaneous paganism, which was growingly liberal with increasing knowledge. To attack the story of Jahve's governance of the world was, for a Christian, sacrilege, since the story itself was sacred. A pagan, with a whole pantheon to turn to, placed no such value upon any one myth and therefore was free to discount them all. His eternal salvation did not rest upon his belief in them; and, moreover, he did not concern himself so much about his salvation in any case. When the belief in an immortality was bound up with the acceptance of a scheme of history, the acceptance was assured. What is the dead past of other people's lives, when compared with the unending future of one's own? History yielded to the demands of eternity.

Moreover in its emphasis upon the Messiahship of Jesus, Christianity fastened upon one of the most exclusive aspects of Jewish thought. Such history as the proof of this claim involved was along the line of a narrow, fanatic, national movement. Christianity, it is true, opened the Messianic Kingdom to the whole world, but it justified its confidence in the future by an appeal to the stricter outlines of a tribal faith in the past. And yet that appeal, in spite of its limitations, was the source of such historical research as Christianity produced. For, when pressed by pagan critics to reconcile their claims with those of Greeks or Egyptians, the Fathers were obliged to work out not merely a theory of history—their theology supplied them with that—but a scheme of chronology. The simple problem, so lightly attacked, as to whether Moses or the Greeks should have the priority as lawgiver forced the apologists to some study of comparative history. While in this particular issue they had a somewhat easy triumph,¹⁵ there was a danger, which is obvious to us now, in too much reliance upon the chronology of the Old Testament, and especially in placing an emphasis upon the literal text. The trenchant criticism of their opponents, therefore, led the fathers to adopt that allegorical type of interpretation, which they learned from the Greeks themselves, and which is so useful wherever there is a need for holding fast to a text while letting the meaning go. We shall therefore find the chief developments of Christian historiography during the first three centuries following these two lines, of

¹⁵ One of the earliest and best short statements of this claim is that made by Tatian in his *Address to the Greeks*, chapter 31 ff. It is strikingly in line with Josephus's protest in *Against Apion*.

allegory and symbolism on the one hand and of comparative chronology on the other.

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(To be continued.)

SOCIETIES

THE NINETEENTH ANNUAL MEETING OF THE AMERICAN PHILOSOPHICAL ASSOCIATION

PHILOSOPHY IN THE MAKING

TO those who gathered at Ithaca for philosophical disputation during the closing days of December, any retrospective account of the proceedings is bound to appear inadequate; while for the many to whom zero weather and remoteness of place proved insuperable barriers nothing in the way of a mere summary of events could possibly communicate more than a vague notion of what was missed. Not that the arguments of the papers read were unreproducible, nor that the more notable of the attractions of our brief and wintry sojourn at Cornell University were so vaporous as to admit of no description. The difficulty of doing justice to the nineteenth annual meeting of American philosophers is due to the fact that this year as in many previous years not the least of the inspiration and pleasure came from impromptu speeches, witty repartee, chance remarks uttered at luncheon or in intermissions, or in the glow of the blazing log fires lighted in Prudence Risley Hall after dinner. Such effervescences of humor and spontaneity and keenness are impossible now to recapture. Easier, almost, would it be to bring back to life the flames of those same log fires or the smiles and words of greeting with which old friends and cordial acquaintances rejoined to commune for a short while upon problems as ancient as the first Platonists and as well adapted as in their day to the fostering of a peculiar degree of good fellowship. The kind of thing one might recall—though without thereby reinstating the whole rich context—is the circumstance that Miss Follett called Professor Sheldon sentimental; that Professor Urban accused Professor Cohen of talking about *bona fide* ghosts; that Professor Cohen scored against his opponents by an invidious analogy with the Almighty; that Professor Crookes in correction of Professor Montague attributed pain to Erin rather than to the individual Irish-

man; that Professor Montague made a pleasant point about stationary balloons; or that everybody quarreled with everybody else, in the abstract, and made up and quarreled again with such lightness and casualness that it might have been toys of sawdust that were the matter of controversy instead of the eternal verities.

Rhapsodies on snow and fire and the very charming hospitality of Cornell University—even on the playful banterings and sallies of philosophers in their less serious mood—are not within the strict scope of this review. But, as was protested at the beginning, a mere digest of the papers listed on the programme would not properly represent the proceedings of the nineteenth annual meeting with which we are concerned. The reviewer in fact can not, with a clear conscience, proceed to such a digest without first having made an effort to communicate the incommunicable—without having first endeavored to render articulate a sense of that very friendly, almost unworldly comradeship, that spirit of the Crusader, which imparted to the act of gathering together for argumentation something of the sacramental character of a deliberately renewed dedication to the great enterprise of philosophy. The problems of metaphysics may be uninfluenced by human attention and safe from the vicissitudes of temporal fate and the caprice of personalities, but to them as objects of discussion, at least, the question of the temperament of the disputants is not irrelevant. For an auspicious cooperation in the search for truth and enduring values, it is indeed far from being a matter of indifference that the band of searchers should be distinguished from the rest of mankind by possession of rather special qualities. That philosophers, as a class, are not as other men—that they are humaner, simpler, more devoted to things of changeless worth, more ardent and quixotic in pursuit of their calling, more childishly sincere, has always seemed to one at least who has sat at their feet an indisputable fact and a sufficient reason for a desire to emulate them. And unless an ineradicable illusion falsified all appearances it was this humanity, this ardor, this sincerity, that warmed and inspired the Ithaca meetings where certain of those changeless values, certain of the eternal verities were pondered and searched for. For the actual success of such searchings, virtues even of kindness and humor are probably not wholly without significance. Certainly one clear consequence of the quality of mind I am praising is the lack of discrimination against women on the ground of sex which characterizes men who are philosophers from men of some other persuasions. Not every learned society treats the presence of women with a cordiality that is untainted by a perfunctory tolerance. To be grateful for the absence of such tolerance is per-

haps an unfitting recognition of a liberality of mind no greater than is supposed to be the prerequisite to becoming a philosopher; and yet in this world, where many claims to liberality are made in the absence of its demonstration, that gratitude can not easily be altogether suppressed.

The theme that commanded principal attention was the nature of the community. Of the six appointed leaders for the discussion of this subject three failed to appear. In consequence, some at least of the challenges of Miss Follett, Professor Urban, and Professor Cohen were safe from counter-challenge, and the time left over was used for a more extensive discussion from the floor than would otherwise have been possible. One is as little moved to resignation over the absence of Professor Tufts, Dean Pound, and Professor Laski as over that of the many other members of the association whose active participation might have been hoped for. Yet one certain good coming out of an evil so great as approximate non-representation of Yale, Princeton, Harvard and Columbia was the informality and intimacy of the Ithaca meetings which were unquestionably due to the relative scantiness of attendance.

Miss Follett's contention was that community is not a thing but a process, her bolts being directed primarily against pluralistic and monistic ghosts. The only thing that is real is the individual, was her plea; the only thing that counts is the individual. The individual must not, however, be thought of as a being bereft of relations and only acquiring such relations by virtue of action. On this ground, and quite unwarrantably as Professor Montague showed in his retort, she accused the realists of postulating entities totally unrelated to one another. What, of course she was after was the acknowledgment of a degree of relatedness—an interrelation amounting to positive interpenetration—such as only an idealist could either wish for or admit. By virtue of correct interpenetration she anticipated the attainment by all individuals of all their desires without diminution or compromise. The undesirability of compromise in any respect was obviously to her not merely a Utopian ideal but a practical basis for action. Quite justly Professor Cohen charged her with being willing to make an advance toward betterment only if assured of immediate attainment of absolute perfection. However noble her ideal of a society in which all should be completely satisfied, she was certainly unable to give a satisfactory solution in terms of interpenetration of the problem regarding the proper choice of a school by two parents of opposite opinion.

On the matter of community ghosts, at least, Professor Cohen aligned himself with Miss Follett. To him, as to her, the individual

alone is real, though it is an individual admittedly linked to his fellow man by all the bonds and relations of custom and affection. The plea that the individual behaves differently when isolated does not, however, prove anything about the reality of a communal mind. All physical objects likewise are by artificial segregation altered in their behavior. But the reduction of whatever mind there is in a group to the sum of individual minds involved, is not to be followed by a similar reduction of corporate responsibility to a mere aggregate of smaller individual responsibilities. Professor Cohen made the interesting point that the unreality of a community ghost does not imply the unreality of obligations attributable to such a ghost. In other words, when persons amalgamate into any league or union—into a guild or a corporation or a nation—they bring upon themselves rights and duties which formerly were not theirs, and which even now are not private, or due to their own merits or demerits.

The first matter for comment in Professor Urban's discussion of the community is his position regarding the status of those "ghosts" about which the earlier speakers had been agreed. For him these debatable essences are not merely valuable but actual; they are, Mr. McIver notwithstanding, both completely realized and concrete. Not merely realism but monism was thus invoked, whereupon, advancing to the matter of the state, which he had observed could not be excluded from any consideration as to the nature of community, Professor Urban made the interesting point that omnicompetence for the state should mean not control of all the interests of the individuals concerned, but an oversight of all individuals in some respects. In further support of his own realism, and in criticism of an illustration used in opposition to it, he noted that communities are of two distinct types: the involuntary, which we are born into; and the voluntary, which we deliberately commit ourselves to or gratuitously fabricate. The philosophical association is of the second class and accordingly can not in fairness be cited as a typical instance of community in general.

In the opinion of the reviewer the important oppositions revealed in the discussions of the leaders and their critics are capable of something like reconciliation by making use of the important distinction of subsistence and existence as the two possible forms of reality which a thing may possess. On the one hand it seems quite clear that, as the opponents of the community ghost argued, the gathering of individuals together into any kind of association does not generate an additional mind in the sense in which the word *mind* is used in psychology. There is no nervous system for such a mind to be correlated with, no indication of its locus. On the other

hand, many of the conditions and consequences of the mind that we thus deny are clearly present. Rights, duties, obligations, are there which would never have arisen for consciousnesses in isolation, and which are not now reducible to an aggregation of the separate and particular obligations and privileges of the constituent members of the organization. We seem then to have properties and consequences of a consciousness, with no consciousness whose properties and consequences they are; and an absence of certain other attributes, such as spatial determination, ordinarily regarded as invariable conditions of all existents, at the same time with the undeniable reality in some sense notwithstanding of the thing whose existence is thus tacitly denied. If an existent mind over and above the particular minds of the totality of individuals is not to be discovered, there is every ground for admitting a subsistent one, without a locus, as is every universal—though with no less actuality for that. Professor Urban cited McIver as a defender of a communal mind as value. Not all universals are reducible to values; some may properly be designated validities, devoid of spatial and temporal specifications, but more importantly operative sometimes in the world of time and space than any of that world's visible and concrete particulars. Of such then might the disputed communal mind be interpreted to be, without forfeiting thereby its character and without claiming membership in the class of existents.

Miss Calkins's paper on the *Metaphysical Monist as Sociological Pluralist* may best be referred to at this point, not because it offered any reconciliation of the particular oppositions we have been considering, but because it showed the compatability of monism and pluralism when manifested respectively in metaphysics and in sociology. Her point was that "one may hold the numerically monistic conception of the universe as absolute, and even as absolute Self or Person, without thereby committing oneself to the conception of the social group as literally a person or self." On the one hand she held that "the usual empirical arguments are insufficient to establish a genuine sociological monism, and on the other hand that no *a priori* consideration forbids the conclusion that between the human and near-human selves . . . and the all-including absolute self . . . there are no intervening self-conscious persons."

Another paper that bore upon the main topic of the sessions was that of Professor Swenson on the *Logical Implicates of Community*. The main contention here was that since the basis and necessary condition of community is understanding, a stable and shared universe of logical terms and relations is likewise its prerequisite. The truth of a realistic metaphysics is then a social need, since the alter-

native theory would mean a world in flux, with no means either of communication or understanding, which could serve as a basis for social organization.

Professor Sharp's contribution concerned a matter for social philosophy, though not specifically for a philosophy of the state. It was entitled *The Fair Wage*, and undertook to demonstrate under what conditions a departure from equality of wages for equal length of labor was necessary and desirable. He brought out clearly the opposition between the economic standpoint on the fair wage problem, and the ethical standpoint regarding the obligation to gratitude. This paper was an unusually searching analysis of a subject in which there is much confusion of thought.

Another, though quite unrelated occasion for search for compromise was treated of in Professor H. W. Wright's paper on *Rational Self-Interest and the Social Adjustment*. Equally false and detrimental to rational ethics in his view is an interpretation of human nature which overlooks its frankly egoistic and selfish bias, and a scheme of salvation which emphasizes out of all proportion the need for self-sacrifice. The true state of the case is rather that, psychologically, man is voracious of personal good, and, ethically, that he must sacrifice certain of his immediate personal ends to ends more remote and more altruistic.

Professor Chandler's paper, entitled *The Inner Check as a Principle* consisted of an exposition and criticism of some fundamental doctrines in the philosophy of Paul Elmer More. It demonstrated the mysticism, and on the whole uncalled-for and unsatisfactory mysticism, of that *littérateur* as he manifests it in his interpretation of Plato. On the same afternoon with this incursion into the mysteries of mysticism there were two other departures from thought upon community, one by Professor Montague into the fields of biology and psychology, the other by Helen Parkhurst into the realm of esthetics. The latter undertaking consisted of an attempt to account for beauty of content or idea in art, as distinguished from beauty of form by means of a special development of the principle of blended rhythm and arhythm. Professor Montague in his paper entitled *Pre-Teleology and Orthogenesis* set forth the possibility of a hitherto unused and very significant application of the vector principle of physics. As a preliminary to this he dwelt upon the importance of the similarity between the spontaneous origination of a new idea, and the spontaneous appearance of a biological variation. In both cases there are antecedents which to some degree are incorporated in the new product, and in both cases that product is likewise qualitatively different from anything that went before.

It is a summing up, but, more importantly, an advance. Vector additions are a third thing manifesting these characters, and the assimilation of biology and psychology to physics in respect of this most difficult phenomenon of innovation was made to appear plausible, and perhaps capable of far-reaching elaborations.

Two protests of a rather fundamental kind were set forth in two brilliant papers, one by Professor Creighton, the other by Professor Sheldon. In the former, the protest was against the traditional view of philosophy as something abstract and not necessarily explicative of the more human things of life. The best, however, that we can hope from it is, Professor Creighton contended, to make us feel at home in the world, and the sooner we get rid of the wrong conception of philosophy, the sooner shall we cease complaining about its lack of progress, and begin to derive benefit from it. Incidentally, of course, the only hope is to get a real comprehension of the concrete universal.

By *The New Tyranny* Professor Sheldon meant the present fashionable obsession with the social as opposed to the individual. His paper was an eloquent tirade against the multitudinous and insidious forms of this modern disease which has left its mark upon our intellectual enterprises and controlled our living. We are forgetting, in our zeal for social values, the many that are individual and forfeiting thereby those goods that accrue to a more self-respecting and more noble egoism.

To close with the paper which actually opened the first session, we have Professor Townsend's *Church and Society* which comprehended some interesting analysis. The practical nature of medieval argumentation, which often we falsely interpret out of context and as highly abstract exercises in logic, was the point particularly stressed. Much was made of the two interpretations of Plato, as a defender of universals that exist, *i. e.*, that are in time and space, and as a defender of what has validity, but a validity that is the outcome of mental operations. The important, and in the opinion of the reviewer the true, notion of what Plato meant by the reality of his Ideas was not touched upon. But an elaboration of this point, as of the many others that tempt to further controversy would carry this account far beyond its proper limits.

It is with renewed regret, moreover, that we have to close without having incorporated in a review of the nineteenth annual meeting of American philosophers a summary of what, as we noted at the beginning must in the nature of the case go unrecorded. Of this kind are the many impromptu speeches—notably those of Professor Overstreet and Professor Swenson—into which was injected a cer-

tain fine flavor, a glow and a beauty that are unrecoverable. Of this kind also was the very special degree of welcome and hospitality accorded by our hosts and expressed in the welcoming speech of President Schurmann. In ancient days, philosophical disputations were of the nature of love feasts. Wine and dance and song were fitting interludes for the rhapsodies in which the true, the beautiful and the good were praised and men communicated to one another their loftier and more spiritual allegiances. It is not often nowadays that we can approximate, howsoever remotely, to a revival of the Platonic banquet. Our speculations are carried on in ugly class-rooms; social and intellectual enthusiasms are lamentably divorced; and oftentimes we are deprecating in our approach to the interests which should be publicly admitted to be our greatest glory. We have forgotten that the true is compatible with the beautiful—that it is, the eloquent Presidential address of Professor Alexander should serve as a forcible reminder. But in rather uncommon measure the drabness of ordinary congregation for debate was lost in the unusual conditions and special fortune of the Ithaca meeting. Not a perfectly revived Platonic banquet, to be sure—but something in many features like it. On the day when the men of the association take their courage in their hands and, instead of waiting in nervous expectation for the moment of disbanding, bravely and gladly unite the joys of philosophy with those of smoke—even in the presence of ladies—on that day one step forward will have been taken to Platonic, and other millennia.

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REVIEWS AND ABSTRACTS OF LITERATURE

Strife of Systems and Productive Duality: An Essay in Philosophy.

WILMON HENRY SHELDON. Cambridge: Harvard University Press. 1918. Pp. x + 534.

The attempt to bring out the significance of Sheldon's book by "placing" it among its peers in recent metaphysical literature, moves me to venture, perhaps too rashly, the generalization that the metaphysicians of our age, at least in England and America, gravitate towards one or other of two types. Either, like Bosanquet, they regard metaphysics as "the communication of a grave experience, and not the mere framework of a theory" and as "knowledge carrying deep conviction and appealing to our whole being" (cf. *The Principle of Individuality and Value*, pp. 1, 2). Or, like Bradley, they look upon metaphysics as an unusually obstinate attempt

to think consistently—an attempt to play the game of thinking for its own sake and according to its own rules, which can succeed only if thought is disentangled from the other functions of our being and from the “finding of bad reasons for what we believe upon instinct” (cf. *Appearance and Reality*, Pref. and Intr.). No doubt, these two types can be approximated to each other. They would agree on a programme framed in some such general terms as that metaphysics is knowledge of reality as against mere appearance, or of first principles, or of the universe as a whole. Bradley, for all his emphasis on sheer thinking, may even be found to agree that metaphysics seeks to satisfy the “mystical side of our nature” (*l. c.* p. 6). Still, there is a profound difference, certainly of emphasis, and on the whole amounting to a difference in kind. A metaphysician of Bosanquet’s type will care relatively little for formal consistency, but greatly for the matter of his argument, the quality of the outlook upon the world which he is seeking to express and communicate. He will want “to take for our standard what man recognizes as value when his life is fullest and his soul at its highest stretch” (Bosanquet, *l. c.*, p. 3). He will take it for granted that, if the “matter” of the argument is of the right sort, consistency will, as it were, take care of itself; that in systematic theory it is secured, not in virtue of any abstract “form” or scheme of deduction, but in virtue of the concrete insights we think with; that, in fact, inconsistency is in the last resort due to defective insight. A metaphysician of Bradley’s type, by contrast, will delight in the dialectics which result whenever the emphasis is thrown on formal consistency. The “grave experience” which he communicates is the experience of the continued and inescapable defeat of all attempts to think consistently, because the discursive and relational nature of thought impales it unavoidably on the horns of the antinomy of identity and difference. Thence is born his deep conviction that we must affirm an Absolute Experience, in the immediacy of which all the antinomies of thought are harmonized, all its contradictions somehow resolved.

Sheldon has affinities with both these types. His heart, if I may so put it, pulls him towards the Bosanquetian, his head towards the Bradleian type. The head wins in the end, but its victory seems to me to be of that pyrrhic sort which really spells defeat. For Sheldon, as for Bradley, the crux of philosophy lies in the antinomies of thought, and especially in the antinomy of identity and difference, externality and internality of relations. True, Sheldon claims to succeed where Bradley fails. He claims to possess in his Principle of Productive Duality a clue to the reconciliation of opposites which is wholly perspicuous to thought, which

can be understood fully here and now, instead of being taken on trust in the Absolute. With magnificent courage he claims to have found the very solution of all problems, the very unifier of all truths—thought's homœopathic cure for thought's dialectical ills. I am fascinated, but, frankly, not convinced. Sheldon's principle seems to me too empty and abstract to possess the fertility he claims for it. Being so abstract, no doubt it supplies a pattern into which well-nigh everything can be fitted. I do not deny that it applies, but—is it my blindness?—I am unable to perceive its power to illuminate and guide. Like Bergson, Sheldon would by sheer intensity of insight get at the very springs of creativeness. Like Hegel, he believes this creativeness to be logical and therefore capable of being understood, so that we can "see" how the very categories are "generated." Like Hegel again, he realizes that the secret of this logic lies in "negation," in the sense of the recognition of *otherness* as compatible with sameness (*cf.* Bosanquet's similar doctrine of *negativity*, in Ch. 5 of *The Principle of Individuality and Value*). In this last point Sheldon is, I agree, on the right track, but what I doubt is that out of abstractions, however skilfully distilled from the concrete, you can, reversing the process, generate the concrete; that from the bare notion of an assemblage of dyads you can deduce the evolution of the actual world. If you could do that, why could you not predict its future? But this is to anticipate. Let us first follow Sheldon's argument.

Sheldon's concept of the philosopher's task is nothing if not concrete. He defines it as "the lifting, so far as he is able, of man's whole load" (p. 4). In our humanitarian age, this load has a practical as well as a theoretical side. Philosophy must contribute "directly or indirectly toward the diminution of the great sum-total of human suffering" (*ibid.*). The "map of the world" which it is the philosopher's business to furnish, must be a map for right conduct too. Yet the value of knowledge is superior to the value of practise, not in the sense that they are mutually exclusive so that, in choosing the one we must needs forego the other; but in the sense that the value of knowledge is twofold, in that we need it both for its own sake and for the sake of utility (pp. 10, 11). Nay more, the satisfaction of the want of knowledge is the condition for, and by itself goes far towards, the satisfaction of all our other wants, and for this reason philosophy is, even practically, man's most important concern. With this truly Platonic estimate of the function and value of philosophy, no "lover of wisdom" will want to quarrel.

Moreover, Sheldon is delightfully catholic and concrete in his ideal of a philosophy broad-based on the data of any and every kind of experience. With Bertrand Russell's proposals for restricting

philosophy to abstractly tenable hypotheses, such as would be true in all possible worlds, or with the same thinker's advocacy of "ethical neutrality" he has, I am glad to find, no sympathy whatever. "A philosophical system which has not built itself upon such facts as the conservation of energy, wave-motion, the propagation of life, the mystic's intuition of God, the laws of musical form, would be no adequate system" (p. 21). Clearly Sheldon is one of the metaphysicians who, as I like to put it, make themselves guardians of the whole of experience, seeking a point of view from which they can appreciate just what each type of experience reveals of the nature of the world we live in. It is in this spirit, for example, that he writes: "The religious experience, with its persuasion of immediate contact with the Deity, is as genuinely an experience as is the laboratory experiment; and possibly it is attested by as many independent witnesses. Yet such an experience can of course be blindly accepted no more than any other. Every sort of testimony must be granted a respectful hearing, but none must be allowed to elbow out the others. In fact the very nature of our problem compels this tolerance; for we have seen that it is the search for a broader view than any other human discipline directly affords" (p. 20).

So far (Ch. 1) Sheldon's whole orientation is, in terms of my initial classification, Bosanquetian. The reader is set to expect a positive metaphysical construction, rendering in explicit theory the lessons to be drawn from a synthetic survey of all experience. But this is precisely what Sheldon does not go on to give him. Instead he swerves off (Ch. 2) into quite a different enterprise. Right here is the critical point where his Bradleian heads gets the better of his Bosanquetian heart. Instead of giving us a philosophy, he invites our attention to the "disease" from which all philosophy suffers. Why is there so little agreement among philosophers? Why no funded truth? Why this spectacle of unending strife and fratricidal contradiction?

The diagnosis of the cause of this disease is undertaken in eight chapters in which Sheldon critically examines the main types of philosophical systems. This part of the book is extraordinarily well done. Each type is presented by the skilful use of material drawn from diverse thinkers whose views have the required kinship. I wish I had time to dwell in detail on some of the many excellencies of these chapters. Alike for fair and penetrating sympathy in exposition and for acuteness in criticism, they seem to me to belong to the very best work in recent philosophy. I can only mention the apt use of the theories of Avenarius, Natorp, Münsterberg, Baldwin; the illuminating account of the different neo-realistic tendencies

(though S. Alexander's version of realism receives, unaccountably, only an incidental mention); the very appreciative account of intuitionism and mysticism; and, last but not least, the valuable chapter on Thomism (Ch. 10). There is no other survey of contemporary philosophical tendencies so masterly within its compass as this of Sheldon's.

The secret of Sheldon's power of thinking himself into so many apparently conflicting points of view is that each for him is *wholly true*, but beyond a certain critical point utterly barren and unprofitable. He is thus in a position to squeeze every ounce of positive significance out of each system, whilst insisting that there is always a point beyond which its claims to be the whole truth, and its blind denial of the truth of its rivals, make it infertile. Thus, for example, "subjectivism" is perfectly correct in its contention that the whole world may be regarded as a phase of some one's consciousness, but its "critical point," the point of manifest triviality and barrenness, comes when the reality of unperceived objects, *e. g.*, of the percipient's brain, and the distinction between the real and the imaginary, turn out to be inexplicable in terms of subjectivist theory. Similarly, "great subjectivism" puts the highest value on system in theory, on law and order in practice, and thus is led to an intolerant denial of the chaotic loose ends in experience, and of individual initiative and experiment in conduct. But the objectivist and pragmatic theories, which insist on the truth of what subjectivisms deny, exhibit themselves the converse intolerance. Partisanship, resulting in mutual exclusiveness, and due to pushing a true theory beyond the point of fertility, is the common vice of all systems which seek to construe the world from a single point of view. Nor are the deliberately "synthetic" systems—the logical or Hegelian, the æsthetic or Leibnizian, the practical or Thomistic-Aristotelian—less free from this disease of intolerance or one-sidedness, in spite of all their claims to cure the trouble by their breadth and all-inclusiveness. Thus Thomism, for all its amazing subtlety and wealth of empirical detail leaves us in the end wavering "between the extremes of dogma without understanding, and reason without doctrine" (p. 403). Again, absolutism is dogged by skepticism. The transition from whole to parts and *vice versa*, or from reality to appearances and back again, is not mediated or made intelligible. To proclaim faith in a "somehow" does not satisfy the desire clearly to see "how." For all that the absolute is the "most positive concept" ever conceived by man, it is absolutely barren. Yet absolute idealism is "the most honest and the justest system which professional philosophy has to show" (p. 423). This judgment shows that Sheldon has come not to destroy but to fulfil Hegel.

If, thus, the philosophical disease consists everywhere in pushing a genuine truth so far that it becomes barren by contradicting a complementary truth, the remedy most to be desired will be a positive, "vitalizing" principle, enabling us at one stroke to retain all these truths; to remove their mutual contradictions; to explain the actual content of the world; and to supply guidance for conduct.

Such a principle Sheldon professes to find in the actual character of the real world, and he holds it to be only our ignoring of this principle which engenders the strife between externality and internality, sameness and difference.

It is the principle of internality which says to us at every stage: the fact that you have named is not final by itself, but must be *understood*, and the only way to understand it is to see it in its relations to the other facts. It is the principle of externality which says at every stage: here is a fact, completely determined, standing on its own feet, which you must *believe*, independent of its being explained or not. The internality-axiom drives us ever onward, the externality-axiom tells us to be satisfied with what is present. The former shows its power in the real world, in the infinite intertwining at every moment of different laws, causes, and elements; the latter shows its power in the resultant existence here and now of finite events and determinate limited things (p. 435).

The play and counter-play of these principles produces the dialectical strife of which life and theory alike are full. Yet "somehow the real world itself has harmonized these antagonisms: if it did not, it would be instantly annulled. . . . Reality has solved the problem; man has not, and so man does not know what reality properly is" (p. 453). Now, "our thought gets its material from reality," hence, "the dialectic must be soluble—not only in reality as the Hegelians have taught us, but also in our particular vexed understandings" (p. 454). Herewith we are brought to the very threshold of Sheldon's great metaphysical discovery.

The whole root of the trouble lies indeed in the simplest of all things in the world, namely, a quite arbitrary dictum. Its simplicity lies in its arbitrariness; the dictum stands alone, ungrounded, unsupported in any way whatsoever. That sameness and difference exclude each other is the purest dogma, a fulmination out of the darkness, justified by no utility or self-evidence. Search as we may, we find no argument offered, in all the long history of thought, to excuse it. . . . We observe in every moment of our waking lives that two things are the same while at the same time different. Two oranges are of the same color, yet of different shapes; a particular stone is now in my hand, now flying through the air, yet the same stone; you are the same man to-day that you were yesterday in spite of added experiences. Always we witness the opposite of this dictum, yet men have felt, or thought they felt, a certain inner compulsion to utter it. Thought seems to have set up a rule of its own, independent of observation—and doing so, has allowed itself to become divorced from reality (p. 456).

And thus we hold the simple secret in our hands. Let Bertrand Russell and F. H. Bradley, in the pride of intellect, declare that identity is identity and difference is difference, and that never can

the one be reconciled with the other. We must become again like little children and learn once more to behold all around us in the world how "sameness and difference may co-habit without shame" (p. 474). Even "the completed infinite" ceases to be self-contradictory. It is the duality, the otherness, at the heart of the union of these two supposedly hostile principles which is the mainspring of their fertility for life and thought. It solves all the time-honored antinomies. "The principle by which we have rid ourselves of exclusion is not an *exclusive* inclusion, but a *free* inclusion. Herein our remedy differs so far as we know *toto caelo* from any remedy that has hitherto been proposed, either by partisan or synthetist" (p. 476).

Here, then, we have the Principle of Productive Duality, the very principle of free creativeness. Identity and difference, we learn, though distinct, are not mutually opposed, but rather mutually contributory. "The two aspects are always of one and the same reality. They are distinct, yet they are united; they are different, yet in their difference they display a sameness and a reciprocal conformation" (p. 493). Reality comprises all aspects. It is through and through dual in structure. "It is free and constrained, it is static and dynamic, it is term and relation, individual and universal" (*ibid.*). The positive relationship of all these aspects "should elucidate, as none of the synthetic types was able to do, the transition from one real thing or event to another, show how one implies another, how event gives rise to event—and show it *in concreto*; in a word it should reveal the way in which the internality of relations works" (pp. 493–4). It must be a principle of *deduction* which is also a principle of *production*. It must not only remove contradictions, but generate novelties. It must furnish a map of reality showing how its parts are joined. It must enable us to *see* how the creative process, once begun, goes on in definite inexhaustible fertility. It must reveal the necessary connection between cause and effect. It must enable us to break that virgin soil for philosophy, the origin of the categories. Reality is an infinite assemblage of dyads, each having its inner substantial, as well as its relative adjectival status. Here is a paradigm of productivity:

Suppose the simplest possible dyad: any two things which possess both sameness and difference. Call them *A* and *B*. Then *B*, being the same as *A*, must have the relation to *B* which *A* has, to wit, difference. *B* is therefore different from *B*. (This of course does not destroy the identity of *B*, as sameness and difference are not mutually destructive.) This second *B* should be called by a new name, to distinguish it from the first, *viz.*, *C*. Now *C*, being the same with *B*, must be, as *B* is, different from itself—hence is implied a new entity *D*. This series is indefinitely long. Herein is generated the notion of a class; for we have a collection of individuals, all displaying a sameness, while the number of the collection actually taken is indifferent. It is potentially infinite (p. 509).

Sheldon's attempts to illustrate his principle by empirical instances, *e. g.*, the iceberg floating on the sea, as well as to display its fertility in application to ethical and political problems, lead to much interesting, if occasionally fantastic, discussion. That the ills of the social order are to be cured, not through revolutions, but through an "aristocracy of altruists" (p. 519) is a fascinating suggestion. On the other hand, the doctrine that "a mode of conduct which creates further good conduct . . . is the only true, because the only *productive* morality" (p. 522), is plausible only so long as the reader forgets, with Sheldon himself, that by the same token there is a productive immorality: a mode of conduct which creates further evil conduct in oneself and others. With a readier faith the reader will respond to the suggestion that the reform of society must be built upon the establishment of strong moral individualities, though he will suspect that Sheldon has learned this, like much other wisdom, from common human experience, without generating it from any abstract Principle of Productive Duality.

I have quoted at length in order to enable readers of this review to judge for themselves the value of Sheldon's theory. In that Sheldon promises, in further studies, to show in detail how to deduce the actual world from his general principle, it is perhaps premature to formulate a verdict. Any demonstration which he may give will certainly be awaited with interest. Meanwhile, two impressions are deepened in my mind with every fresh reading, especially of his last chapter, in which his creative principle is most fully expounded and its fertility most hopefully proclaimed. One is, that at present Sheldon has furnished no proof, better than the manipulations of abstract symbols illustrated in the quotation above, of the power of his principle to articulate, let alone "to explain, *i. e.*, logically to generate," the actual universe as we have it here and now. The other is, that when Sheldon returns to the practical problem of the diminution of human suffering—surely *the* field above all others in which we would wish him to exhibit the fertility of his principle—he has, in effect, to confess his failure to deduce any concrete solution or policy whatever. No doubt this failure is skilfully covered up by the suggestion that the philosopher can not, and need not, do more than point out the ideals to be kept in mind, leaving it to specialist and expert to apply them in detail. Sheldon even ingeniously declares that this dualism of general principle and specific application supports his whole position. But that there is a real failure here, at least in the sense of an implicit withdrawal of the extravagant hopes and promises of earlier pages, is, I think, clear from the confession of his Preface:

Though the knowledge of the creative principle is requisite for an understanding of the specific structure of reality, and though it will explain more of that structure than the present volume can show, such knowledge is not enough for the purpose of human thought and practise. Herein lies the negative side of the above. Another sort of knowledge must be added; it is afforded by the special sciences and by practical experience. While the human mind remains liable to mistakes in reasoning and to preconceived opinion, men can operate successfully with the fundamental principle only after they have empirically ascertained the details to which it is to apply. Without such acquaintance, the general rule is as likely to mislead as to enlighten. The particular working of the rule can not usually be known before the occasion presents itself; and when it does so, we need both an open-minded empiricism and a resolute will to ensure the desirable application. The rival claims of individual and society, of religion and science, of dogma and free thought, of discipline and liberty, must indeed be adjusted by the aid of the first principle—can not otherwise be adjusted; but the adjustment may not be carried through without expert knowledge also of the conditions in each particular issue (p. iv).

Does not Sheldon here forget that, by his own statement, thought draws its material from reality? If the Principle of Productive Duality is really drawn from reality as revealed in human experience, then somewhere the philosopher must possess that expertness which, in turn, will make fresh applications possible. Else the fruitful union of expert knowledge of detail and abstract principle is still left unmediated, unless by expert knowledge we mean, not "another sort of knowledge," but *precisely the knowledge of the principle in its concrete embodiments*, and not merely in abstract formulation. It is the divorce of these two sorts of knowledge which makes Sheldon's principle empty, precisely when, by all his praises of it, it should be of teeming richness. Sheldon's own rich mind deceives him concerning the poverty of his principle.

I can not conclude, especially after this criticism, without a tribute to the vivacity and felicity of Sheldon's style, which, throughout much technical debate, preserves the wit and flavor of good talk. Nor must I forget to mention the broad humanity of his sympathies and the maturity and independence of his judgment. He is never dazzled by mere aggressiveness or cleverness, nor duped by the latest catch-words. The reader carries away a vivid impression of poise and sanity and scholarship.

In general, Sheldon's book seems to me the most important contribution to metaphysics which has appeared on this side of the Atlantic since Royce's *The World and the Individual*.

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Employment Psychology. H. C. LINK. New York: The Macmillan Company. 1919. Pp. 440.

In a preface to the book Professor E. L. Thorndike calls it "important because it gives an honest, impartial account of the use of psychological tests under working conditions in a representative industry." The author "has the great merit of writing as a man of science assessing his own work, not as an enthusiast eager to make a market for psychology with business men."

The first part of the book gives a history of the author's experiences in the relatively new field of employment psychology, the problems that he met, such as the need for analysis of occupations into measurable units, for tests to measure these units, for the technique of applying these tests, for adequate checks upon the value of the tests, and finally for the need of establishing effective relations among psychologists, industrial leaders and employees. The author here presents a very conservative account of the results achieved in the form of correlations between performance in groups of tests and actual performance in terms of output of work or other available measure of efficiency. This very necessary check upon the validity of measuring devices is still ignored by the champions of many of the widely advertised schemes for vocational selection. Data are presented for tests of assemblers, clerks, stenographers, typists, comptometrists, inspectors, machine operators, and apprentice tool-makers and machinists.

The scope of psychological tests is shown to have definite limitations as to the type of individual who can be measured. For instance, the tests are inadequate for selecting executives and industrial leaders, and the reasons for this are clearly set forth. The tests are shown to be limited also as to the characteristics of an individual that can be measured. They measure specific ability to do a given kind of work, but success in that work depends upon a variety of other factors, the so-called moral or character traits, which can at present be measured only indirectly.

Part II. of the book deals with trade tests, job analysis and the "vestibule school" as a selecting and training agency. Trade tests differ from the usual psychological tests in that they are intended to measure acquired information and skill, rather than native ability. Their successful use requires the same careful technique, standardization and checks as the tests of native ability. They make necessary also a classification and analysis of occupations according to the fundamental operations involved. When such an analysis has been made and the tests for ability to perform these fundamental operations have been developed, the selection of the man for the job will be much simplified.

Part III. discusses the factors which work for and against the retention of properly selected employees. The importance of the other conditions of success than specific ability, that is, the moral qualities, is shown to be most adequately measured in terms of output or production. The various methods for keeping records of individual production are described and sample record cards are presented. In industries where standards of production are not feasible from which relative production of the individual may be determined, the method of "limited impression" is recommended. It consists in getting periodical estimates independently from two or more associates, of performance in terms of speed, orderliness, tact, initiative, *etc.* "If the work can not be standardized, and if the estimates of workers must depend upon personal opinions, the next best step must be taken. This step is to standardize the method in which personal opinion shall be expressed, and to pursue a course which shall reduce the chance elements in such expression to a minimum."

Part IV. contains a brief summary of the manner in which the material discussed in the book may be put into practise. An interesting chapter presents the point of view of the applicant or employee, a very necessary consideration in applying any method for his selection and retention. An appendix contains the tests mentioned in the text, together with standards and methods of computing scores.

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JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW. March, 1919. *The Personalistic Conception of Nature* (pp. 155-146): MARY WHITON CALKINS.—"The first division of the paper will attempt accordingly to trace the metamorphosis of vitalism into personalism and to show that this psychological vitalism antagonizes no justified claim of mechanism. The later divisions of the paper will discuss the philosophical nature and the bases of a personalistic cosmology." *The Development of Coleridge's Thought* (pp. 147-163): NORMAN WILDE.—Coleridge was a constructive critic. His attitude was largely assimilative and appreciative. It is for this reason important to estimate the historical development of his thought. He was a born Platonist of the mystic type. He is incorrectly labeled a German transcendentalist. He belongs rather to the traditional English Platonism of the seventeenth century. *Mind, Body, Theism,*

and Immortality (pp. 164-175): JOSHUA C. GREGORY.—Views body and mind as two mutually interacting and interdependent entities bearing the relationship of copartnership. That mind and life developed out of the non-living does not preclude the possibility of a career superior for them to that of matter. Descent does not decide destiny. Evolution is not incompatible with theism or immortality. *Proceedings of the Eighteenth Annual Meeting of the American Philosophical Association* (pp. 176-194): Consists largely of summaries of articles read. *Reviews of Books: Proceedings of the Aristotelian Society, New Series, Volume XVIII.*, J. E. CREIGHTON. John Dewey and others, *Creative Intelligence*, KATHERINE E. GILBERT. Frederick J. Teggart, *The Process of History*, GEORGE H. SABINE. *Notices of New Books. Summaries of Articles. Notes.*

Cunningham, Holly Estil. *An Introduction to Philosophy*. Boston: Richard G. Badger. 1920. Pp. 257. \$1.75.

Whitehead, A. N. *An Enquiry concerning the Principles of Natural Knowledge*. Cambridge, England: University Press. 1919. Pp. xii + 200.

NOTES AND NEWS

A meeting of the Aristotelian Society was held on December 15, Professor A. N. Whitehead in the chair. Dr. G. E. Moore read a paper on "External and Internal Relations," in which he said that the most important part of what is meant by those who say that no relations are purely external, seems to be the proposition that *every* relational property belongs *necessarily* to every term to which it belongs *in part*. This proposition is false; the truth being that *some* only among relational properties belong necessarily to those terms which possess them. To say that the property *P* belongs necessarily to the subject *S* is to say that from the proposition, with regard to any term, *A*, that it has not got *P*, it *follows* that *A* is numerically different from *S*. And this has been falsely taken to be true of every *P* and every *S*, because it is in fact true that from the proposition "*S* is *P*" it *follows* that any term, *A*, which has not got *P*, is, *in fact*, other than *S*. The proposition that, if *p* is true, then the conjunction "*q* is true and *r* false" *must* be false, has been compared with the proposition that, if *p* is true, then "*q* is true and *r* false" is *necessarily* false in the sense that *r* *follows* from *q*. From the proposition "From '*p* is true' it *follows* that '*q* is true and *r* false' is false" it does not follow that, if *p* is true, then *r* *follows* from *q*.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

CHRISTIANITY AND HISTORY

II. ALLEGORY AND THE CONTRIBUTION OF ORIGEN

IN spite of what has been said to the weakness of Christian historiography, it is possible to take a quite opposite point of view, and to maintain the thesis that, among religions, Christianity is especially notable as resting essentially on a historical basis.

In so far as Christianity was a historical religion, that was due, as has just been said, to the Messianic element in it. Indeed it can be said to have claimed from the beginning that it was a historical religion—a fulfilment of history, one fitting itself into the scheme of social and political evolution in a particular state. The apostles themselves, in their earliest appeal, demanded that one “search the scriptures”—a demand unique in the founding of religions. There is a vast difference, however, between studying history and studying historically. That they did study it, the one fact that the Christians retained the old Testament is ample evidence. That they failed to deal with it adequately, the New Testament is also ample evidence. But since the Christian Messiah was offered to the whole world as well as to the Jews, Christian historiography had two main tasks before it: it had to place the life of Jesus in the history of the Jews, upon the one hand, and in the general history of antiquity, upon the other. The latter problem was not forced upon the church until the pagan world began to take the new religion seriously, and its answer is found in the works of the great apologists. The relation of Christianity to Judaism, however, the Messianic problem proper, was of vital importance from the beginning, for it involved the supreme question whether or not Jesus was the one in whom the prophecies were fulfilled.¹

¹ The coming of the Messiah was the main continuation of Jewish national history. Messiahship was to the Jews of the time of Christ the embodiment of somewhat the same thought as stirred the Frenchman of the close of the nineteenth century at the recollection of 1870 and the lost provinces, or lent such inspiration in embittered Poland to the prophet-like poetry of Mickiewicz. It was the dream of a deliverer, a belief strengthened rather than crushed by failure and disaster. The whole sad drama of Jewish history may be said to have

One "searched the scriptures" therefore for the evidences of the signs by which the advent could be recognized. The invitation to search them was, in appearance at least, a challenge to a scientific test, that of verification. If the data of the life of Jesus corresponded with the details of the promises, there was a proof that the promises had been fulfilled. But since the fulfilment was not literal, the interpretation could not be literal either. The spiritual Kingdom of the Messiah had to be constructed out of fragmentary and uncertain references, and the only satisfactory way to apply many of them was by symbolism and allegory. Modern scholarship has now discarded messianic prophecy, having discovered that the texts so confidently cited as foretelling the life of Jesus had no such purpose in the minds of their authors. But orthodoxy has held, through all the history of the church, that the texts were applicable and that the proof was thereby established of the harmony of the old and the new dispensations.

We can not turn, however, to the problems of higher criticism. The significant thing for history-writing was the creation of what might be called a new *genre*—that of the allegorical interpretation of texts. The use of allegory to explain, or explain away, texts was not a creation of Christian historians, for the device was not unknown to pagan literature or philosophy. As far back as the sixth century B.C., Homer was interpreted allegorically by Theagenes of Rhegium, and pagan philosophy had constant recourse to allegory to harmonize myth with reason. The Jews too were past-masters in its use; indeed it runs through the prophetic literature alongside that elusive trace of the unattained which gave the prophecies their fascinating charm. One could track it back farther still to the mind of primitive man, where symbol and reality are often confused into a single impression. But in the hands of the Christian theologians, symbolism emerged from the background of thought to dominate the whole situation. The story of realities depended upon the interpretation of the unrealities; and that story of realities was nothing short of a history of the world itself.

Allegorical interpretation of the Old Testament had been developed by the Jewish scholars, especially those of the diaspora, who found themselves thrown into contact with gentile scholars and felt the need of harmonizing Greek thought with their own intellectual heritage. One finds it to the full in the writings of the greatest Jewish philosopher of antiquity, Philo of Alexandria, who concentrated its expression in the messianic hope—a hope against hope itself. Christianity in offering itself as the realization of that hope was stepping into a definite place in Jewish history, but it was a place to which the Jewish nation as a whole has never admitted it.

lived at the time of Jesus. The extent to which he carried it may be gauged by his description of the Garden of Eden, whose four rivers became the four virtues, prudence, temperance, courage and justice, and the central stream from which they flow, the Divine Wisdom.²

The greatest master of Christian allegory was Origen. While not a historian in the stricter sense, he contributed to Christian historiography one of its most remarkable chapters. He not only denied the literal truth of much of Genesis, and explained away the darker happenings in the history of Israel; but, even in the New Testament, he treated as parables or fables such stories as that of the Devil taking Jesus up into a high mountain and showing him the kingdoms of the world. One reads Origen with a startle of surprise. The most learned of the Fathers of the third century was a modern. His commentaries upon the bible might almost pass for the product of the nineteenth century. The age of Lyell and Darwin has seen the same effort of mystic orthodoxy to save the poem of Creation, by making the six days over into geological eras and the story of Adam and Eve a symbol of human fate. Many a sermon upon the reconciliation of science and religion—that supreme subject of modern sermons—might be taken almost bodily from Origen. For his problem was essentially like that which fronts the modern theologian; he had to win from a rationalism which he respected, the denial of its inherent skepticism. Like Philo, a resident of that cosmopolitan center, Alexandria, that meeting-place of races and religions, Origen was a modern among moderns. He was a Greek of subtlest intellect and vast erudition, one of the finest products of the great Hellenic dispersion.³

Interpretation of the scriptures by allegory is not, in Origen's eyes, an unwarranted liberty. The scriptures themselves sanction it—allegorically! "There is a hidden and secret meaning," he says, "in each individual word. The treasure of divine wisdom is hid in the vulgar and unpolished vessels of words; as the apostle also points out when he says, 'We have this treasure in earthen vessels.'"⁴ Quaintly naïve as such reasoning seems when based upon a single text, its weakness becomes its strength when sufficient texts are adduced to convey the impression that the scriptures themselves do really proclaim their own symbolic character. This Origen endeavors to do. "If the texts of Moses had contained nothing which was to be understood as having a secret meaning, the prophet would not have said in his prayer to God: 'Open thou

² Cf. *Allegories of the Sacred Laws*, 1: 19.

³ Cf. Eusebius, *Church History*, Bk. 6, for details of Origen's life.

⁴ *De Principiis*, I., 1: 9.

mine eyes and I will behold wondrous things out of thy law (Psalms, 119.18).’” What, he asks, can one make out of the prophecy of Ezekiel except allegorically?⁵ Prophetic literature implies allegory in its very structure. But the strongest proof of the legitimacy of allegorical interpretation is its use in the New Testament, and so largely by St. Paul.⁶

The modern critic sees the vicious circle in which such reasoning moves. But he sees it because he denies the hidden meaning, the secret lore, which to the “intellectuals” of the third century was the real heart of phenomena. Symbolism has deeper roots than one suspects. The mysterious efficacy of numbers is as wide as savagery; the secret values of words is a doctrine as universal as speech. They come from untold ages beyond Pythagoras or Heraclitus. The Christian emphasis upon the logos—“the word which became God and the word which was God”—but put the stamp of supreme authority upon a phase of thought intelligible to all antiquity. Gnosticism took hold of that phase, and by insisting upon an inner doctrine which was concealed from the uninitiated, attempted to harmonize Christianity with the parallel cults of paganism. Neo-platonism was doing much the same for paganism itself. The cults of Asia and Egypt were drawn together and interpreted in the light of the worship of Demeter or Dionysus. Origen’s point of view is not so naïve as it seems. It was in line with that of his age. The world was a growing one, and yet the world itself was a medley of different civilizations. The only way the ancient could think of overcoming this antithesis between an ideal which unified and phenomena which differed was by denying the essential nature of the differences. We should do the same if it were not for our hypothesis of evolution and the historical attitude of mind. Only when one sees the *impasse* into which the thinkers of antiquity were forced, in their attempts to syncretize a complex and varying world, does one realize by contrast what a tremendous implement of synthesis the evolutionary hypothesis supplies. The only alternative method by which to realize the harmony which does not appear is by symbolism.

If we once grant that texts are not what they seem, there is only one way to learn their true meaning. We must find a key, and that key must be some supreme fact, something so large that the content of the text seems but incidental to it. Christianity supplied such a clue to the interpretation of the Old Testament; and the Old Testament, upon its side, supplied Christianity with the authority of a long antiquity. The value of that antiquity for the basis of a story of obscure, recent happenings in Jerusalem was

⁵ *Against Celsus*, 4: 50.

⁶ *Op. cit.*, 4: 49.

felt by all apologists, and has been a convincing argument until the present. It was left for the nineteenth century to substitute for symbolism the tests of historical criticism, and thus to see the whole scheme of theological interpretation fade away. But we should not forget that, false as it seems to us in both method and results, the symbolic method made the theologian somewhat of a historian in spite of himself; and we should not expect of the savants of the third century the historical and evolutionary attitude of to-day—which was, so far as we can see, his only alternative.

Symbolism may twist the texts; but a mind like Origen's does not miss the essential point that the texts must be there to twist. Nothing is more interesting in the historiography of early Christianity than to see how Origen came to realize, after all, the paucity of his sources and their inadequacy, particularly those dealing with the history of Christianity itself. He shows this with scholarly frankness in a passage in his famous apology *Against Celsus*. Celsus was a pagan Greek who wrote the most notable attack upon Christianity of which we have record from those early times. His treatise was a powerful and learned criticism of the Christian writings and teachings, especially emphasizing their unscientific character and the credulity of those who believed in them. Origen's reply reveals in more places than one how in him a genuine historical critic was lost in the theologian. To illustrate: Celsus had claimed that before writing his attack he had taken the trouble to acquaint himself with all the Christian doctrines and writings. Origen, drawing on his prodigious knowledge of the bible, shows time and again what a superficial acquaintance it had been—that is, judged according to Origen's method of interpretation. But when Celsus charges the Christians with obscurantism, stating that their teachers generally tell him "Do not investigate," while at the same time exhorting him to believe, Origen takes another tack.⁷ He is apparently a little ashamed of the emphasis taken from reason and placed upon faith by his Christian colleagues. He does not actually say as much, but he reminds Celsus that all men have not the leisure to investigate. After this weak admission, however, he turns round, in what is one of the most interesting passages of patristic writing, and demands if Celsus and the pagans do not follow authority as well. Have not Stoics and Platonists a teacher too, whose word they go back to? Celsus believes in an uncreated world and that the flood (Deucalion's) is a fairly modern thing.⁸

⁷ Cf. I., 12 and 10. The order of citations has been reversed here for clarity.

⁸ Celsus also had the idea of a common evolution of ideas and customs and of the borrowings of one nation from another, e. g., circumcision from Egypt (1: 22).

But what authority has he? The dialogues of Plato? But Moses saw more clearly than Plato. He was in incomparably better position to be informed. Why not prefer the account of Moses?

The value of a controversy is that each side sees the other's weak points. It seldom results in admitting the inferiority of your own position; but once in a while a fair-minded man will be courageous enough to state that, through no fault of his own, he is unable to be more accurate than his opponent. This is about what Origen does, in taking up the charge of Celsus that the narrative of the baptism in the Jordan is so improbable a story as to require confirmation of first-hand witnesses, before he as a thinking pagan could accept it. In reply Origen frankly admits the paucity of sources for the history of Christianity; but demands to know if Celsus is willing to give up pagan history because it contains improbable incidents. The passage is worth quoting, for it shows how the most learned man of all the Fathers, the most subtle and comprehensive intellect, with one exception, which Christianity enlisted to its cause, recognized the weakness of Christian historiography but failed to see how it could be remedied.

Before we begin our reply we have to remark that the endeavor to show, with regard to almost any history, however true, that it actually occurred, and to produce an intelligent conception regarding it, is one of the most difficult undertakings that can be attempted, and is in some instances an impossibility. For suppose that some one were to assert that there never had been any Trojan War, chiefly on account of the impossible narrative interwoven therewith, about a certain Achilles being the son of a sea-goddess Thetis and of a man Peleus, or Sarpedon being the son of Zeus, or Asculapius and Ialmenus the sons of Ares, or Æneas that of Aphrodite, how should we prove that such was the case, especially under the weight of the fiction attached, I know not how, to the universally prevalent opinion that there was really a war in Ilium between Greeks and Trojans? And suppose, also that some one disbelieved the story of Cædipus and Jocasta, and of their two sons Eteocles and Polynices, because the sphinx, a kind of half-virgin, was introduced into the narrative, how should we demonstrate the reality of such a thing? And in like manner also with the history of the Epi-*goni*, although there is no such marvellous event interwoven with it, or with the return of the *Heracleidæ*, or countless other historical events. But he who deals candidly with histories, and would wish to keep himself also from being imposed upon by them, will exercise his judgment as to what statements he will give his assent to, and what he will accept figuratively, seeking to discover the meaning of the authors of such inventions, and from what statements he will withhold his belief, as having been written for the gratification of certain individuals.

And we have said this by way of anticipation respecting the whole history related in the Gospels concerning Jesus, not as inviting men of acuteness to a simple and unreasoning faith, but wishing to show that there is need of candor in those who are to read, and of much investigation, and, so to speak, of insight into the meaning of the writers, that the object with which each event has been recorded may be discovered.

In so many words Origen admits that since the sources for

Christian history can not be checked up by external evidence, there is nothing left but to accept their main outlines on faith—the same faith the Greek has in the existence of Troy or the Roman in the early kings. But being a Greek—and above all a Greek in argument—he qualifies his faith by reason and explains away what seems improbable. In a way, therefore, we have before us a sort of sophisticated Herodotus after all, who eliminates myth to suit his perspective.

Had the Christian world been and remained as sophisticated as Origen, the conception of biblical history for the next fifteen hundred years would have been vastly different. But, although the allegorical method of biblical interpretation was used by nearly all the Fathers—by none more than by the pope whose influence sank deepest into the Middle Ages, Gregory the Great—and still forms the subject of nearly all sermons, the symbolism and allegory came to be applied less to those passages which contained the narrative, than to the moralizing and prophetic sections. The stories of the creation, of the flood, of Joseph, of the plagues in Egypt, of Sodom and Gomorrah, were not explained away. But about them, and the rest of that high theme of the fortunes of Israel, were woven the gorgeous dreams of every poetic imagination, from Origen to Bossuet, which had been steeped in miracle and rested upon authority. One turns to Sulpicius Severus, the biographer of the wonder-working Martin of Tours, for the bible story as it reached the Middle Ages. The narrative of the Old Testament was taken literally, like that of the New; the story of a primitive people was presented to a primitive audience. Allegory was not allowed to explain away passages which would have shocked the critical intelligence of Hellenic philosophers, for those were the very passages most likely to impress the simple-minded Germans for whose education the church itself was to be responsible.

There was, however, a better reason than mere credulous simplicity, why Jewish and Christian history were not allegorized away. It was because that history had been made credible by an exhaustive treatment of chronology. Christian scholars took up the task of reconciling the events of Jewish history with the annals of other histories, and worked into a convincing and definite scheme of parallel chronology the narrative from Abraham to Christ. Mathematics was applied to history—not simply to the biblical narrative but all that of the ancient world—and out of the chaos of fact and legend, of contradiction and absurdity, of fancy run riot and unfounded speculation, there was slowly hammered into shape that scheme of measured years back to the origins of Israel and then to the creation, which still largely prevails to-day. This is one of

the most important things ever done by historians. Henceforth, for the next fifteen centuries and more, there was one sure path back to the origin of the world, a path along the Jewish past, and marked out by the absolute laws of mathematics and revelation. An account of how this came about will carry us back into that complicated problem of the measurement of time, which we have considered before, in its general aspects. Now, however, we come upon the work of those who gave us our own time-reckoning, and who in doing so molded the conception of world history for the western world more than any other students or masters of history.

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(To be concluded.)

A THEORY OF KNOWLEDGE WHICH FOREGOES METAPHYSICS. IN REPLY TO DR. SCHILLER

THERE are whole ranges of man's effort toward intelligent insight which, even in our day, are rendered taboo by the sign and bugbear Speculation. The advance in the sciences during recent decades has done much, it is true, to hearten and reassure the timid that the implied curse is not so fearsome. The mathematician leading the way, and physics, chemistry, biology following, have transformed the unapproachable place into a veritable treasure-house of their offerings. Even the Gradgrind type of Empiricist is no longer taken aback by supersensuous biophors, transcendental functions, or symmetrical points in muscles. But this resolving of the taboo is to be noted chiefly on one avenue of approach to the dreaded Metaphysic. It is recognized that the *outcome* of empirical investigation is usually metaphysical entities and supersensuous relations such as electrons, a perfectly elastic medium, or the relation called heredity. The fact that more mathematics can be used in dealing with certain phenomena than in those of recurrent and age-weary problems is not one to blind the modern physicist or biologist to the character of his conclusions, as frankly a projection of scientific imagination in accord with available data.

But is it less frequently recognized that the general assumptions and methods employed in any investigation are themselves hypotheses which also determine the resultant interpretation. Even the simple-minded would, it is true, realize that the method which admits two and only two terms (say matter and motion) presupposes that other assumed entities can be reduced to these terms. A method which interprets chemical qualities as groupings of "constituent" atoms or

electrons assumes that spatial relationships are functions of molecular structure. The psychologist who interprets mental phenomena in terms of the theory of biological survival not only construes human mental processes in terms of physiology; historically he has shown himself scornful, if not oblivious, of the mental processes called philosophical problems. Whether we start with simple belief in "hard sensations" (Bertrand Russell), and depend upon the mathematical postulates of Euclid or of Einstein, our process of thought will be *a priori* in the sense of committing ourselves for the time being to a whole system of interpretations. And that is why every possible assumption is so important to the open-minded investigator.

Now the tracing of implications in any given method is not necessarily a judgment concerning its validity. It may be called an effort to "save appearances," to avoid dogmatic suppression, it may be to use that method more intelligently. Should an inherent absurdity, a logical contradiction, or a group of data unaccounted for, be made known to such an investigator he would hardly proceed to a personal charge, much less declare your data irrelevant and your conclusions errors—because you did not use his method and start with his assumptions! To do so would imply a dogmatism comporting with omniscience in special revelation.

The present writer, in a paper entitled "A Mediaeval Aspect of Pragmatism"¹ endeavored to set forth certain implications of the familiar doctrine that in any interpretation the mark of validity is a certain definable ethical quality in its product. It was an effort to determine what would result logically if such a method were co-ordinated with another more commonly recognized assumption which maintains that in the act of knowing things they are assumed to bear definite relationships to our mental processes. It was argued that in case we accept both assumptions we assert a functional relationship between the things known and the ethical quality of the knowledge process. This conclusion was characterized as an inference resulting from the hypothetical postulation of both principles. It aimed for the kind of logical adequacy represented in Euclidian demonstration, the premises having been assumed.

Now in a paper entitled "Methodological Teleology"² Dr. Schiller of Oxford "repudiates . . . all Professor Warbeke's presuppositions and contentions as a brood of misconceptions hatched out of a mare's nest" (p. 550). Pragmatism makes no assumptions whatsoever. It need not burden itself with anything supposed to be existent, with relationships between mental states and the things

¹ This JOURNAL, Vol. XVI., No. 8.

² This JOURNAL, Vol. XVI., No. 20.

they are supposed to cognize, or with the qualitative characters of mental processes which are said to be cognitive. A *method* as such is not a dogma; a theory of knowledge is not metaphysic. If anyone presumes to maintain that pragmatism is a theory of relationships between mental processes and things known, or that these mental states have recognizable character, he "presupposes an unpragmatic logic and an unpragmatic metaphysic." The inferences drawn are stigmatized as a "worship of Euclidian proof," and the outcome of a naïve metaphysic "which imagines that absolute knowledge of reality can be taken for granted" (549).

The present writer will gladly submit to the reader's judgment the question of whether he "takes absolute truth for granted," or regards hypotheses as dogmas. He may be said to trust somewhat hopefully in the process of inference. He still believes that, granted certain postulates, the demonstrations of Euclid successfully set forth the implications of his method. He also believes that the Euclidian method would be χαμαιλέοντα καὶ σαθρῶς ἰδρυμένον if it were to forego all axioms and postulates. He for one is reasonably sure that until absolute axioms are discovered, every investigation will, implicitly or explicitly, involve a nest of speculative assumptions, and that if these be examined with sufficient penetration they will be seen to take the form of metaphysical principles. He proposes now as an example in point to consider the paper of Dr. Schiller itself.

Pragmatism, says our author, is a method and involves no metaphysical hypotheses. It foregoes any assumption that there are definite relationships between mental states and their objects, or that these objects have relationships among themselves, or that a causal relation anywhere obtains, or that any quality can be ascribed to mental processes of the "truth-making" order, or "that there is a universe, *i. e.*, that we can handle what we believe to be the real by applying this notion to it" (550). And so "it is evident that nothing metaphysical is implied in the pragmatist's interpretation of either action upon or judgment about reality" (551).

Now it may be that Dr. Schiller understands by metaphysics something other than a systematic effort to coordinate our most general assumptions into logical coherence. But even apart from the question of what we conceive metaphysics to be, the catalogue of assumptions which Dr. Schiller forthwith proceeds to make has independent interest. The present writer will not presume to say whether the term metaphysical appropriately characterizes a "teleological constitution which is inevitable in *any* view of the world" (551). Or whether it be metaphysical to set up the principle: "For the mind to know the world it has to be presupposed that the

two are to some extent and in some sense commensurable" (551). Or again: "The difference between teleological and causal explanation is not one of principle. Both are *ex analogia hominis*." Or again: "If there is any commensurability, however slight, knowledge is possible and attainable in varying degrees." Again: "If the mind works teleologically . . . we shall find the world most knowable if it is assumed to work similarly" (551). These are all of them "methodological" but they also have the form and substance (albeit without the closely reasoned concatenation and weighing of evidence) of matter to be found in a Bradley or a Royce. "Why should it [Pragmatism] scruple to make a postulate which is universal and legitimate?" inquires our author. And the fact, of course, is that many such are made. The chief difficulty with non-pragmatists is to realize how certain assumptions which are avowedly contradictory can do service at the same time and under the same conditions.³

³ In this connection self-defense calls for a statement concerning the law of contradiction. Dr. Schiller, vexed by the "superficiality" of references necessarily brief in a short article, repudiates these references as "inaccurate." "Professor Warbeke . . . attributes to me a demand for the 'abrogation' of the law of contradiction which actually occurs in an exposition of Hegel!" (505). The only answer under these circumstances would seem to be to quote more *in extenso* passages in the *Formal Logic* discussed under the head: "Contradiction—as a Principle of Being, Either Meaningless or False; as a Principle of Thought, Self-contradictory." "Because all things change, they not only fail to preserve their identity, but also succeed in assuming contradictory attributes. Consequently the maxim that a thing can not be and not be *A* will only hold in cases where the thing has not changed since it was *A*. If it [Formal Logic] frankly admitted into its statement of the principle all the qualifications which may be relevant in its actual use, it would cease to have any impressiveness or meaning in the abstract. We should have to say, *e. g.*, '*A* can not be *A* and not-*A* at the same time, in the same place, in the same respect, in the same reference, in the same context, for the same persons—in short, under precisely the same circumstances; but probably such an ideal case never occurs and for heaven's sake don't ask me how little difference in any one of these respects may enable *A* to be not-*A*.' Yet it is clear that any such differences may vitiate an attempted application of the principle. The exact point at which a dog that eats bones will, from sheer repletion, refuse to eat another may baffle not only a formal logician but the best canine psychologist. . . . Clearly, therefore, the principle of Contradiction must not be used to dogmatize about reality, and the more it is kept out of metaphysics the better for both parties. (2) Regarded as a principle of thought, it defines the difference between affirmation and denial. Now it is an important fact, of a psychological sort, that affirmation and denial (in a sense) exclude each other. But it does not follow from this that verbally contradictory forms of affirmation and denial are incompatible. For we can never take it for granted that these forms express the real meaning of the judgments. . . . Even, however, where the two contradictory propositions were intended in their literal meaning, we saw that

The question of what is meant by good is very significant for one who writes on "The Ethical Basis of Metaphysics." In that Essay Dr. Schiller says: "Inasmuch as . . . teleological valuation is also the special sphere of ethical enquiry, *Pragmatism may be said to assign metaphysical validity* to the typical method of ethics. At a blow it awards to the ethical conception of *Good* supreme authority over the logical conception of *True* and the metaphysical conception of *Real*. For from the pursuit of the latter we may never eliminate the reference to the former. Our apprehension of the *Real*, our comprehension of the *True*, is always effected by beings who are aiming at the attainment of some *Good*, and it seems a palpable absurdity to deny that this fact makes a stupendous difference." In his criticism of my paper presumably the same author writes: "It is a further *mistake* of Professor Warbeke's to ascribe a metaphysical intention to the doctrine of the connection between the Real, the True and the Good, and of the supremacy of the Good. For that too is not a dogma" (552, italics added). How the sentence which follows: "The meaning intended . . . was concerned with the priority of the *epistemological* question over the *ontological*" (with which assumption the present writer is in complete accord) modifies in any way the hypothesis of an "ethical basis for metaphysics" remains a psychological riddle of the Sphinx.

To define good as the "physical well-being of humans" would indeed be protoplasmic in its crudity. And Dr. Schiller renders doubtful honor to the present writer in referring to the proposition: "The drama of creation is assumed to play about the moral character, mental attitudes, or physical well-being of humans," as follows: "Professor W. writes throughout as if good could mean nothing but the physical well-being of humans" (553). But the latter too is quite aware of the Platonic use of ἀγαθόν as connoting what the result would not be two contradictory meanings but no meaning at all, just because there is a contradiction. Moreover . . . in the very act of affirming the identity of *A* we are defining it over against not-*A* and excluding not-*A* from it. Thus every assertion includes a denial, *omnis determinatio est negatio*. . . . Thus to affirm is at the same time to deny, and to deny to affirm; the very law of Contradiction seems to demand its own abrogation. The paradox of the situation is well calculated to provoke that philosophic stupor which appears to be the end of philosophy as commonly understood, and Hegel had the wits to exploit it. But though he was extensively accused of denying the Law of Contradiction, his argument was not refuted. Still he did not propound a principle that should be both applicable and undeniable, and nothing less than this can content Formal Logic" (pp. 121-123).

To what extent the above is to be regarded as an "exposition of Hegel" and in what sense "Contradiction as a principle of thought is self-contradictory" thus appears to be a question of significant assertion when "All things [including minds] change." Gorgian Skepticism seems here at the door.

one would rather be or have or do than anything else. And while he conceives philosophy to have relationships to desired ends, including honorable relations among philosophers, he is endeavoring, even by pragmatic methods to discover what form of good is demonstrably the criterion of scientific and philosophical truth. The answer to this question might be of value to pragmatism itself as well as to those who "babble . . . in Cloudeuckoodom" (553) even though it only make the latter resolve that silence is best.

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SOCIETIES

THE TWENTY-EIGHTH ANNUAL MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

ABOUT one hundred and twenty-five psychologists assembled at Harvard University for the twenty-eighth annual meeting of the American Psychological Association on December 29, 30 and 31. The programme for Monday included a session for general psychology, an exhibit of new apparatus and teaching materials, a session for experimental psychology and one for intelligence tests. On Tuesday the psychologists met jointly in the morning with the American Association of Clinical Psychologists and in the afternoon with the American Anthropological Association; the evening being the occasion of the annual dinner and the address of the retiring President, Professor Walter Dill Scott, of Northwestern University. Following the close of the meetings Wednesday noon, many guests visited the Massachusetts State School for Feeble-Minded, the Judge Baker Foundation, the Carnegie Nutrition Laboratory, McLean Hospital, the Psychopathic Hospital and other institutions in the vicinity.

The programme gave 6 titles under general psychology, experimental psychology 16, intelligence tests and clinical psychology 21, comparative psychology 2, social and religious psychology 3, and applied psychology 7. The greatest interest seemed to center in the sessions for intelligence tests, clinical psychology and the work of psychologists in the service of the war and industries. Among the best contributions of the meetings were the results of work of psychologists in various phases of war activities. The pronounced development of the technique of trade-testing, the thorough tryout of intelligence tests by their use on more than a million and a half recruits, with subsequent revision of older notions of median mental levels of unselected as well as psychoneurotic, foreign-born, colored

and other individuals, the need of tests other than those of general intelligence for diagnosis of psychoneurotics, and vocational aptitudes and the need of systematic training and classification of workers in the rapidly growing field of clinical psychology, may be considered the main features of the meetings. That interest is not diminishing in the work in laboratory and experimental psychology on more general topics, was evidenced by the total of 16 papers in these fields.

During the annual business meeting, held Tuesday afternoon, Shepherd I. Franz, Government Hospital for the Insane, Washington, D. C., was elected President of the Association for the coming year; Edward G. Boring, Clark University, Secretary-Treasurer; H. S. Langfeld, Harvard University, and M. V. Bingham, Carnegie Institute of Technology, were elected to the Council. Chicago was selected for the convention in December, 1920. Twenty-seven new members were voted into the association and the deaths, during the year, of John Wallace Baird, Edward Cowles, and August Hoch were reported.

H. S. Langfeld, of Harvard University, reported information just received concerning the work of psychologists in the German army. Tests were devised and applied for the selection of motormen, motor-vehicle drivers, aviators, and for skilled labor in many industries. Apparently but few new methods of selecting men on the basis of innate ability were developed and in the field of trade-testing and in measurements of general intelligence, the work of psychologists in Germany fell short of the accomplishments of psychologists in America.

On the afternoon of Tuesday the Association met jointly with the American Anthropological Association at which time Clark Wissler, American Museum of Natural History, representing the anthropologists, and W. V. Bingham, Carnegie Institute, representing the psychologists, urged a closer coordination and cooperation of the work in the two fields of science. Dr. Wissler pointed out the differences in the equipment and approach of psychologist and anthropologist, the advantages that would result from a combined attack in many cases, and the eagerness of workers in his field to cooperate in the solution of social and industrial problems. Dr. Bingham indicated the practical advantages of a division of anthropology and psychology, enabling at least an annual interchange of opinions and practises. A paper prepared by J. R. Angell, University of Chicago, was read in which both groups of workers were urged to cooperate with the National Research Council in the conduct of investigation.

The retiring President, Walter Dill Scott, Northwestern Univer-

sity, addressed the Association on the subject *Changes in Some of Our Conceptions and Practises in Personnel* on the evening of the annual dinner. Evolution along five lines was emphasized: (1) A history was given of changes in the concept of the amount and nature of individual differences from the older belief that peoples were originally much alike and that such differences as appeared were due to environmental factors, to the present belief that individuals differ enormously in all traits and that such differences are largely innate. "The greatest achievement of the Association has been the establishment of the fact of individual differences and its applications to education, politics, industry and economics."

(2) The importance of reasoning as a factor in adjustment has been superseded by the considerations of instincts, emotions and habits. The operation of instinctive trends as the spring of action and the sources of discontent in industrial life was illustrated by concrete cases. It is not the violation of the workers' logical processes that brings unrest and discontent so much as thwartings of his pride, his desire of social approval, of mastery—his instinctive and emotional trends.

(3) Education in the schools or in the factory must take into account the unlearned forms of reaction to features of the environment and seek to so order the individual and his environment that the desirable adjustments may be made. The work of the personnel director in industry must be enlarged and his function must be that of providing the approved experiences so that desirable habits of response will be built up. Mere richness of content or training of general faculties will not suffice.

(4) Changes have taken place in the concept of man and his environment. A man is not the victim of his environment, he is not the master of it, nor is his function that of subduing or opposing it. The two should evolve together. In industry, the man and his job are not opposed, nor does the concept of selecting the man to fit the job—finding a square peg for a square hole—adequately express the present point of view. The function of the personnel manager is the "creation of the worker in a working situation." The work must be arranged to satisfy the human wants of the worker and he should be set to the task most in harmony with his particular talents and interests. There must be a correlated improvement of the work and the workers.

(5) The last point led to a survey of the evolution of vocational guidance from the chance methods of superstition, guess and incidental inclinations to the modern technique of mental, physical and vocational tests, statistical methods and the like. "In the last century the productivity of the worker has been doubled by the

activities of some 2,000 minds through changes in the material world. In the present century equally great increases in productivity may be expected through the adjustment of worker to the work."

Following are brief summaries of papers presented in the various sessions:

Session for General Psychology

G. V. N. Dearborn, of the Sargent School of Boston, described cases of correlation between arterial blood pressure and certain states of mind. Arterial blood pressure, under control of the autonomic nervous system, is but slightly susceptible to voluntary control but decidedly affected by perceptual or ideational influences provoking emotional reactions. As one aspect of such reactions, arterial blood pressure may sometimes fall as much as 35 mm. during a shift from marked anxiety to calm in the course of 15 minutes. A prescription for "relaxation" which the speaker identified with diminished activity of the autonomic system calls for "pleasant thoughts of non-exciting sort" or "making the mind a blank."

A *Behavioristic Interpretation of Concepts* was offered by R. C. Givler, of Tufts College. Concepts are "written or spoken words whose meaning is a motor attitude, attunement or set" which occurs as a response to them. The theory, similar in many respects to that of Professor Washburn, makes of meaning a more or less incomplete reaction of eye, hand, articulatory or autonomic muscles. A percept is an acquired motor reaction—thinking is a flow of neuromuscular-tension attitudes which "normally eventuate in some overt reaction" or a "rehearsal or reiteration of action."

A graphic representation of the tonal series from lowest to highest audibility, indicating the volumic spread of the base line, with ordinates for pitch-brightness and intensity was shown by R. M. Ogden, of Cornell University. Evidence was presented indicating brightness to be an independent variable as well as pitch, intensity and volume.

E. G. Boring, of Clark University, offered several cautions concerning the uncritical acceptance of the distribution of mental traits according to the normal probability curve. The form of the distribution depends, for one thing, upon the unit of measurement adopted. If the normal law, moreover, is the law of chance, then two mutually dependent variables for which the relationship is not simply linear—such as height and volume, which varies roughly as its cube—can not have the same form of chance distribution. If the distribution for height is normal, the distribution for volume can not be.

In a paper entitled *Are there any Instincts?* Knight Dunlap, of

Johns Hopkins, criticized looseness of classification of instincts on teleological grounds as confusing and often misleading. We should speak of "instinctive activities" defining the situations and responses as well as may be and discard, except under necessity, such complex groupings as "maternal instinct" or "fighting instinct" and the like. Instances of the same instinctive activities being listed under several "instincts" by the same author were cited.

Sessions for Experimental Psychology

E. S. Robinson, of Yale University, found in three experiments that decided retroactive inhibition of recall occurred when material similar to that originally learned is studied immediately after. Little or no retroactive inhibition was found when the interpolated study involved dissimilar material. The influence of competition produced by the subject keeping his own score in the case of motor reactions to sound or light is to keep the tonicity of specific groups of muscles (finger-eye-ear accommodation) at a higher level and to reduce efficiency in scoring results, according to experiments conducted by A. P. Weiss, Ohio State University.

That the rational element in belief has been much over-estimated appears from experiments reported by A. A. Roback, of Harvard University. In judging passages, given anonymously, from such writers as St. Anselm, St. Thomas Aquinas, Nietzsche, Swedenborg and others as (a) absurd, (b) credible, (c) acceptable, (d) convincing, the congruity of imagery induced by the passage with memories of similar situations, plus emotional responses and muscular sets, seems fundamental. Acceptance is characterized by "a tingling in the chest and feeling of well being"; rejection by tenseness, contraction of muscles in throat and chest, checking of respiration and other kinæsthesia. Repeated reading of a passage generally serves to modify the original attitude in the opposite direction, convincing passages shifting to doubt, absurd passages becoming more credible.

F. A. C. Perrin, of the University of Texas, reported upon a variety of tests of motor ability, involving simple and complex reactions. A complex motor ability can not be readily explained as a simple compound of such specific functions as accuracy, rhythm, and speed. The nervous mechanisms involved in ambidexterity and fine coordinations resist analysis at present. The correlations between university grades, mental tests and estimated "character" and success in motor abilities were low. Emotional disturbances and attitudes—feeling of inferiority, self-consciousness—produce marked changes in performances in such motor functions.

The prevalent belief that our judgments in the fields of appreciation of music or literature as well as in morals are considerably in-

fluenced by the contrary opinions of the majority or of experts in these fields is supported by experimental data obtained from college students by H. T. Moore, of Dartmouth College. Comparisons with control groups yield results showing that the knowledge of contrary opinions of the expert or the majority produces reversals of individual opinions in matter of speech amounting to 4 or 5 times mere chance. Moral reversals under majority influence are 4.7 times chance, whereas reversals of musical preferences as a result of expert or majority opinions is about twice chance.

Circulatory changes in the arm as the result of mental or physical work were studied by John E. Anderson, of Yale University, by means of a Lehmann arm plethysmograph. Physical work for a one-minute period is accompanied by vaso-dilatation in 47 to 74 per cent. of the cases, followed usually by a continuous tendency toward constriction when work is continued for an hour. Mental work—counting, reading, adding, *etc.*—shows vaso-dilatation in the arm in approximately 75 per cent. of the cases. The volume variation is decidedly individualistic and constant for the same subject in repeated tests.

Using a new form of substitution test (nonsense material to be transliterated into ciphers), H. M. Johnson and Franklin C. Pashal, of the U. S. Air Service Medical Research Laboratory, found a definite tendency toward negative acceleration of improvement when the oxygen supply became “moderately” low. Individual differences occurred, but in general a marked loss of speed and accuracy or both appears, accompanied by increased effort, on occasions, to compensate for obviously diminished performance. The curve of learning shows frequent spurts until a certain minimum of oxygen supply brings a breakdown.

C. E. Seashore, University of Iowa, demonstrated the localization of sound by wave phase in open-air conduction. Certain laws of the movement of this phantom sound with reference to synchronism, distance, pitch, intensity, timbre and direction of the two courses were presented together with a wave phase localization interpreted in terms of intensity.

The Influence of Expectation on Supraliminal Discrimination of Sounds was the subject of a paper by L. R. Geisler, of Clark University. The intensity or extent of a variable stimulus is the more erroneously judged the more it differs from the expected standard. The tendencies to err are always in the direction of the expected standard. The errors are greater when the expected standards are presented to the sense, than when they are merely in the form of recall of a standard presented previously. The explanation suggested is that errors are due to definite muscular sets involved in the

expectant attitude which interferes with the proper neuro-muscular readiness to receive the new stimulus. Samuel W. Fernberger, of Clark University, also reported upon an experiment designed to test expectation, in the case of lifted weights. In one series of tests the central stimuli (96 and 100 grams) immediately followed the heaviest stimulus (104 grams); in a second series, the central stimuli followed the lightest stimulus (88 grams). There appeared a constant tendency to judge the critical stimuli (96 and 100 grams) lighter when they followed the 104 gram weight and heavier when they followed the 88 gram weight. Practise served to increase rather than decrease such errors of expectation.

L. T. Troland, of Harvard University, found that when a spot of light of appropriate area is thrown upon the retina in the general region of the yellow spot, bands of luminosity can often be seen which connect the stimulus spot with the vicinity of the blind spot. A study of the course of these bands for different shapes and locations of the stimulus spot, in comparison with the histology of the nerve fiber layer of the retina indicates that they are due to secondary stimulation of retinal fibers by the impulses passing along adjacent fibers.

That the determinants of the optimum intensity of light for ordinary work should be made by momentary exposures of visual stimuli rather than by prolonged (say a 3 second) observation appeared from experiments reported by P. W. Cobb, Captain M. C. Medical Research Laboratory, Mitchell Field, L. I. The eye in ordinary work functions in series of momentary fixation pauses, and tests of visual acuity should conform to such habits. It was suggested that eye fatigue under unfavorable distributions of light might be due to disturbances in habits of fixation rhythms owing to a slowing of the retinal responses, paralleling the effort attending the attempt to adjust one's walking movements to a step much different in length or frequency from the customary one.

In response to the need for a rapid test to select men for lookout or signal service work in the Navy, an acuity lantern and illumination scale for the detection of small errors in refraction was devised by C. E. Ferree and G. Rand, of Bryn Mawr College. Roughly, but 25-30 per cent. of the men on battleships have sufficient acuity of vision to qualify for such observational work. The apparatus devised has proved of value in clinical practise for the determination of the exact amount and placement of the correction of astigmatism.

Three methods of securing physical measurements and specifications of color were described by Lloyd A. Jones and Prentice Reeves, of the Eastman Kodak Co. W. R. Niles, of the Carnegie Nutrition

Laboratory, explained an apparatus of simpler construction and operation than the Dodge photographic technique for recording ocular movements. This apparatus was used for obtaining a speedy and reliable quantitative score for the accuracy of eye-hand pursuit coordinations of candidates for service as aviators. A correlation of $+0.40$ was found between success in this test and "progress in learning to fly."

The Session for Experimental Psychology closed with a paper by Captain Garry C. Myers, Camp Upton, concerning the rôle of imagination as an indication to the motives, interests and aptitudes of young children.

Session for Intelligence Tests

Much interest was evoked by data presented by E. A. Doll, of Princeton University, from a million and a half army recruits and other subjects as regards the median mental age of adults, commonly assumed to be about sixteen years for unselected groups. The Stanford-Binet median mental age equivalent of army recruits is thirteen years; of negro and foreign-born recruits ten years; of adult male state prisoners thirteen, the actual tests used in each case being the Army Alpha. Five hundred typical public-school children examined by Alpha show no increase in median scores by age after thirteen, the same being true of juvenile delinquents, ages sixteen to thirty years. From these data the suggestion was made that the median mental age level of native white adults is approximately thirteen years. No attempt was made to determine the life age limit of mental age growth, since, it was suggested, "emotional development, skill, acquisitions aptitudes and the like probably continue to develop indefinitely." The upper age limit of feeble-mindedness is not coincident with the lower mental age limit of normality, since it appeared that the borderline zone for feeble-mindedness may cover a range from mental age seven to thirteen years. The application of mental age or I.Q. as criterion of mental defect is specially limited in the case of individuals of ten or more years chronological age. Data harmonizing with these results was presented by F. L. Wells, of McLean Hospital. The median I.Q. (Stanford scale) of 102 cases of mental breakdown at McLean is 88, but I.Q.'s of 100 are frequent and I.Q.'s of 119 have been found in patients conspicuously incapable of self-maintenance. Only in the organic psychoses does the breakdown regularly involve the ideational capacities with which the intelligence scales are concerned. Normal and even superior "intelligence" is often associated with grave judgment and conduct disorder. Intelligence scales measure essentially ability to deal with ideas, as distinct from ability to deal

with things or with people. Psychotic breakdowns are essentially failures of adjustment to the social environment. The speaker emphasized the minor rôle of "intelligence" (ideational capacity) in mental balance, urging a conception of education as a discipline of character rather than knowledge.

With a few changes, the Binet tests were successfully employed by S. P. Hayes, Mt. Holyoke College, in measuring the intelligence of the blind. A modification of the Pressey group tests also gave high correlations with the Binet scores and abilities estimated by teachers. E. L. Woods, Wisconsin State Department of Public Instruction, reported on the use of the recently devised Virginia tests Alpha in group testing of intelligence of delinquent girls. J. B. Miner, Carnegie Institute of Technology, displayed a method of utilizing three-dimensional models for representing individual differences in complex abilities such as salesmanship. Certain relations not now taken care of in frequency tables, correlations, multiple regression, *etc.*, can be displayed by such models.

L. W. Webb, Northwestern University, found the Pearson coefficient of correlation between rate of reading (Monroe Silent Reading Test) and the Army Alpha and Thurstone tests *A* and *B* ranging from $+0.47$ to $+0.59$; comprehension of reading gave coefficients ranging from $+0.48$ to $+0.69$. Speed and comprehension of reading correlate $+0.85$. The speaker contended that these correlations show too large a dependence of the pencil and paper tests upon rapidity of comprehension in reading.

L. M. Thurstone, Carnegie Institute of Technology, found the cycle-omnibus form of intelligence test to be of great service in furnishing data for recommending candidates for admission to engineering colleges, in advising committees on scholarship in cases of delinquent students and in giving vocational counsel. S. S. Colvin, of Brown University, reported a correlation of $+0.60$ between success in The Brown Intelligence Tests and the standing in college for the first two terms. The Thorndike Tests, first used in 1919, proved to be of great prognostic value and showed a high correlation with itself in repeated tests on the same subject.

Joint Meeting with the American Association of Clinical Psychologists

D. Mitchell, Pelman Institute, defined clinical psychology as a "professional practise" as contrasted with the "science" of laboratory psychology. Clinical psychology was again contrasted with "applied psychology" largely on grounds that the latter field may have no relation to the individual. Clinical psychology is the practise of determining mental status in order to prescribe kinds and

methods of education, of detecting specific abilities and disabilities of vocational significance, and the manipulation of emotional development for desirable social reactions. Dr. A. F. Bronner, Judge Baker Foundation, emphasizing the function of clinical psychology as that of individual diagnosis, gave illustrations of the failure of general intelligence tests to betray significant variations in mental equipment. The necessity of devising tests for many specific abilities was urged. Florence Mateer, Bureau of Juvenile Research, has found that whereas the mental age or I.Q. is of little value in the detection of psychopathic conditions due to syphilis, a detailed account of the range of plus and minus scores, and more precise measures of the individual responses often give a reliable clue to either congenital or acquired syphilis. The same type of analysis generally differentiates the psychopathic from the non-psychopathic, no matter what the mental age may be.

E. E. Southard, Psychopathic Hospital of Boston, presented a table of terms for the systematic expansion of terminology for mental symptoms and processes. Arnold Gessell, Yale University, discussed several cases of hemi-hypertrophy in relation to mental defect. Morton Prince gave several illustrative cases of a method of securing dissociation of the mind whereby one of two or more antagonistic trends becomes dominant, thus permitting an insight into the conflicting motives.

H. L. Hollingworth, Columbia University, presented a new interpretation of functional neuroses, in terms of redintegrative reactions. In normal processes of perception or thinking the stimulus is a portion of a former gross situation which reintegrates the total responses. The distinction between the redintegrative reaction of the normal and the neurotic is that in the former only a significant detail provokes the total reaction—not any chance item. Redintegration may take place on the cortical level leading to ordinary understanding, thought or perception, or it may take place on the postural level giving the picture of conversion hysteria, or it may take place on the autonomic level giving rise to the anxiety neurosis. If cortical redintegration takes place, the postural and autonomic responses may be determined by the total pattern of the stimulus and are not redintegrative. Cortical immaturity or weakness would mean greater redintegrative predisposition on the other two levels. Since the postural level is more closely connected with the cortical level than is the autonomic, intellectual inferiority would predispose one more definitely toward conversion hysteria than toward the anxiety type. Measurement of psychoneurotic soldiers shows that not only are they in general intellectually inferior, but also the conversion forms represent a lower intelligence level than do the anxiety forms.

A most valuable and practical method of evaluating school attainments in terms of mental ability is the result of studies by Rudolf Pintner, of Ohio State University. A mental test alone is not sufficient to diagnose a child accurately; measures of school attainment based on both age and grade norms are needed. Two survey tests, one mental and one educational, were devised and applied to 1,500 cases. Percentile values are converted into a so-called "index" ranging from zero to one hundred. The median indices serve as a measure for the school. A high mental age with low educational index indicates deficiencies in instruction, whereas a close agreement between the two indices indicates efficiency in the school. In the same way different classes in the same school or different individuals in the same class may be compared, enabling one to correlate innate ability with possible attainment and to apply corrective measures when the need appears.

Session for Educational and Comparative Psychology

J. F. Dashiell, University of North Carolina, pointed out certain errors in the straightforward statistical explanation of learning in the maze by the factors of frequency and recency. The contention was based upon such findings as these: a rat will enter a blind alley opening straight ahead 5 times out of 8, the exit from a blind alley opening at the side is more likely to be in a forward than in a reverse direction in about the ratio of 3.5 to 1.

J. L. Ulrich, Johns Hopkins University, in maze experiments with rats emphasized the rôle of reflex mechanisms in learning as opposed to sensory motor connections or "sensory impressions." The reflex extension and flexion of the rat's limbs were discovered to be of great influence upon learning in the maze.

W. T. Shepherd, Washington, D. C., in a study of 148 children, ages eight to thirteen years, emphasized the importance of the educational and social experiences and of the influence of respected teachers or friends upon the development of religious ideals.

Tests devised to measure such functions as persistence, conscientiousness, application and emotional control are being applied to Junior High School and other students by S. L. Pressey, of Indiana University. Correlations of results from these tests with general intelligence, health and estimates of intelligence were presented. L. C. Pressey, Indiana University, urged group testing of general intelligence in the primary school as a means of studying the effect of school training upon tests subsequently given. Data permitting comparisons of test findings on children of the laboring and professional classes, whites and negroes, *etc.*, were presented. E. A. Kirkpatrick, Fitchburg State Normal School, believes that

normal school pupils may be trained in fifteen hours to use the Binet tests in classifying pupils. Less time is required to handle group tests, but much more is needed to enable the student to score, tabulate and interpret the results. Daniel Starch, University of Wisconsin, found in data obtained from 1,000 first-year pupils, that approximately equal mental ability may exist with great differences in language ability. Correlations ranging from $+0.25$ to $+0.28$ between interest in college subjects and grades received in them were found by K. W. Bridges, Ohio State University. The correlation between interest and the subject's estimate of his ability in the courses was higher $+0.50$ to $+0.59$.

Session for Social and Applied Psychology

F. H. Allport, Harvard University, reported on experiments dealing with influence of the presence and actions of other human beings upon the motor, emotional and mental performances of a subject. The chief results noted were (1) a facilitation of movement, (2) a compulsion toward haste at the expense of quality, (3) an objective direction of attention, (4) experiences of rivalry, and (5) tendency toward social conservatism in the returning of judgments.

The auditory reaction-time tests used chiefly by the Italian Government for the selection of aviator pilots were applied to successful and unsuccessful American aviators by F. C. Dockeray and S. Isaacs, with satisfactory results. Success in a rather simple test of muscular steadiness showed a high correlation with ability in flying.

E. P. Frost, of the Rochester Chamber of Commerce, emphasized four industrial problems which offered special opportunities to the psychologist: (1) The reduction of labor turnover by means of selecting men adapted by intellect, temperament and special abilities to the particular task; (2) by devising programmes for the Americanization of foreigners and illiterate through wise education; (3) by testing the problems of the shop foreman both as to the management of labor and the conduct of the vestibule or training school, and (4) by contributing to the effectiveness of continuation schools where instruction is given during periods of the working day.

From data obtained in several extensive investigations cited by E. L. Thorndike, Teachers College, Columbia University, it appears that even experienced judges can not treat an individual as a compound of separate qualities, such as intelligence, industry, technical skill, reliability, *etc.*, and to assign a magnitude to each of these in independence of the others. The correlations between such traits are too high and too even, the ratings being apparently affected by a

marked tendency to think of the person in general as rather good or rather inferior and to be influenced in all judgments by this general attitude. It was suggested that observers should report *the evidence*, not a rating, and that the ratings should be given on the evidence for each quality separately.

D. G. Paterson and B. Ruml, The Scott Company, described a method of obtaining more objective criteria in the use of rating scales. By the older method, leadership, for example, might be defined and judged in terms of initiative, force, self-reliance, tact, loyalty, cooperation, *etc.* By the suggested scale one would judge the ability to develop a loyal and effective organization by administering justice, inspiring confidence and winning the cooperation of his subordinates—a “man to man” type of comparison. Tendencies for single judges to estimate too high or too low might be corrected, by the devise of “Master Scales.”

A. W. Kornhauser and B. Ruml, of the Scott Company, reported on some recent developments in trade-test theory. The usual form of trade test consists of a fixed set of questions with norms established for the test as a whole. A new departure consists in establishing norms for the individual questions. Hence (1) a test may be made as brief as desired, (2) it may be varied at will to prevent coaching, (3) it becomes unnecessary to give easier questions than those already passed or more difficult ones than those already failed, (4) new individual questions may be added or undesirable ones dropped without necessitating a restandardization of the norms for the whole test. By a change in the use of regression lines from the method employed in the army test, wherein the average score in the test giving the grade of trade ability, to the reverse wherein the actual numerical chance that a man making a particular score or an individual question is a novice, apprentice, journeyman, or expert, it is possible (1) to place each question at the level where it differentiates most effectively, (2) questions may be weighted in proportion to their differentiating value, and (3) questions may be weighted differently if passed or failed.

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REVIEWS AND ABSTRACTS OF LITERATURE

General Psychology. WALTER S. HUNTER. Chicago: The University of Chicago Press. 1919. Pp. xiii + 351.

This is another elementary text on general psychology. So many brief books on psychology have been published in the United States that there seems to be no excuse for extending the list.

Hunter's three-hundred-and-fifty-page text, however, differs decidedly from many others. Students in general courses will find this book very interesting as a text-book stating the fundamental facts, procedures and applications of psychology, rather than presenting the foundation for students who are preparing to do advanced work in the subject.

The author assumes that the usual student is first interested in the general field of psychology. He therefore devotes the first four chapters of his text to the following subjects: Subject Matter of Psychology, Animal Psychology, Individual and Applied Psychology, Abnormal Psychology, Social and Racial Psychology. The confining of the above four subjects to 110 pages makes their treatment seem rather brief and unsatisfactory. It does, however, introduce students to those fields about which there is the most inquiry on the part of the general public. The selected bibliographies enable one to continue reading in the field of his peculiar interests.

Part II. takes up Normal Human Adult Psychology. The discussion is very much like that found in the usual elementary text-book. The author has succeeded admirably in drawing most of his illustrations from recorded experiments. This introduces the student to experimental source material rather than to the simple, insipid personal experiences so often used by psychological writers.

The book is illustrated with 55 figures, distributed through the entire volume. This adds something to the attractiveness of the text.

The theoretical standpoint of Professor Hunter is one of a combination of behaviorism and structuralism. He does not rule out introspective data, but supplements it with objective data wherever possible.

The material presented, along with some reference work and supplemental studies, would occupy a class for one semester. With the increased public interest in psychology, along with its increased application, there seems to be a need for more extended courses in general psychology. Professor Hunter's book will doubtless be adopted by many instructors, but it will have to be supplemented with a great deal of library and laboratory material.

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JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. May-June, 1919. *La nature et le mouvement d'après Aristote* (pp. 353-368): OCTAVE HAMELIN.—Aristotle's theory of movement is markedly dynamistic and vital-

istic, and tends to become idealistic. *La philosophie française en Amérique* (pp. 369-423): WOODBRIDGE RILEY.—This second article deals especially with the history of Comte's influence and of Positivism in America. *La spiritualization des tendances* (pp. 424-451): F. PAULHAN.—Discusses the organization, spiritualization, and socialization of tendencies, with an examination of the diverse forms of spiritualization, the mental conditions favoring spiritualization or unfavorable to it, and distinguishes between spiritualization and idealization. *Remarques sur la psychologie collective* (pp. 455-474): J. SAGERET.—“The progress of thought has . . . the paradoxical character of resulting in an increased solidarity between the individual and humanity and of augmenting at the same time the facility with which the individual detaches his soul from humanity; the progress of thought renders man more social in his formation, more individual in the power of his spirit.” *Revue critique. Sur la philosophie de la guerre. Analyses et Comptes rendus.* De Witt H. Parker, *The Self and Nature*: ANDRÉ LALANDE. John Laird, *Problems of the Self*: R. GUÉNON. Julien Tiersot, *Un demi-siècle de musique française*: LIONEL DAURIAC. T. M. Moustoxidi, *Les systèmes esthétiques en France*: CHARLES LALO. Gonzague Truc, *La Grace*: H. DELACROIX. F. MORAL, *Essai sur l'introversion mystique*: H. DELACROIX. *Le Pangermanisme philosophique*: TH. RUYSSSEN. *Les Cahiers de Probus*: E. CRAMAUSSEL. *Revue des Périodiques*.

Cory, Herbert Ellsworth. *The Intellectuals and the Wage Workers: A Study in Educational Psychoanalysis*. New York: The Sunwise Turn. 1919. Pp. 273.

Elliot, Hugh. *Modern Science and Materialism*. New York and London: Longmans, Green and Co. 1919. Pp. 211. \$3.00.

Lodge, Rupert Clendon. *An Introduction to Modern Logic*. Minneapolis: Perine Book Co. 1920. Pp. xiv + 361.

Shaw, Charles Gray. *The Ground and Goal of Human Life*. New York: New York University Press. 1919. Pp. xii + 593. \$3.50.

NOTES AND NEWS

PSYCHOLOGICAL TERMINOLOGY

THE Committee on Terminology of the American Psychological Association is taking up for examination terms in the fields of Sensation and Cognition. Psychologists interested in the precise use of terms are invited to assist the committee in its work by calling the chairman's attention to—

(1) Psychological terms used with two or more different mean-

ings (whether distinguished or not), and terms used indefinitely or ambiguously in contemporary writings.

(2) Pairs or groups of terms which lead to confusion when used interchangeably.

(3) Foreign terms needing definition or translation.

(4) Books and articles containing systematic lists of cognate terms, or discussions of ambiguous terms. (Full references desired.)

It is a matter of prime importance in any science to clear up double meanings and imperfect synonyms. The word *feeling* is used in standard psychological works with several different meanings. The words *intellect* and *intelligence* are used by some writers interchangeably, while others draw a sharp distinction between them. There are many instances in the literature of both kinds of confusion.

The committee wishes to include a large number of such terms in its next report, either defining and distinguishing them or citing discussions in easily accessible sources. This list will not be confined to sensation and cognition, but will cover the entire field of psychology. Will readers of this magazine assist the committee to make the list fairly complete?

HOWARD C. WARREN,
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It may not be generally known that on October 31, 1918, the library of the University of Nancy was struck by an incendiary bomb and 160,000 volumes destroyed. Such a loss is very difficult to replace, and the university appreciates very greatly any contributions of books such as a university library ought to possess, and any offers of desirable periodicals.

THE prize of \$100 offered in 1914 for the best paper on the Availability of Pearson's Formulæ for Psychophysics (this JOURNAL, Vol. XI., p. 27 f.), has been awarded to Dr. Godfrey T. Thomson, Armstrong College, Newcastle-upon-Tyne, for a paper entitled "On the Application of Pearson's Methods of Curve-Fitting to the Problems of Psychophysics, especially to the Data of Urban's Experiments on Lifted Weights: in four Parts, together with Part V., On the Use of Compound Curves in the Analysis of Heterogeneous Material, and Part VI., On an Outline of an Attempt to Make a Generalized Psychometric Function."

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

CHRISTIANITY AND HISTORY

III. CHRONOLOGY AND CHURCH HISTORY

THE history of history repeats itself. Tradition and myth, epic and genealogy, priestly lore of world eras and the marking of time, criticism and history follow each other or fuse in the long evolution of that rational self-consciousness which projects itself into the past as it builds up the synthesis of the present. Similar pathways lie behind all developed historiographies. Indeed, the parallel between the histories of the history of different nations is so close as to rob the successive chapters of much of the charm of novelty. When we have reviewed the historiography of Greece, that of Rome strikes us as familiar. The same likeness lies already in the less developed historiographies of oriental cultures. They all emerge from a common base; and, to use a biological expression, ontogeny repeats phylogeny—the individual repeats the species. The law of growth seems to apply to history as though it were an organism with an independent evolution, instead of what it really is, a mere reflection of changing societies.

The explanation apparently lies at hand, in the similar evolution of the societies which produce the history. But, from such premises one would hardly expect the historiography of a religion to exhibit the same general lines of development. Yet in the history of Christian history we have much the same evolution of material as in that of Greece or Rome. Naturally, the priestly element is stronger, and the attempts at rationalizing the narratives more in evidence. But it is the absence rather than the presence of sophistication which strikes one most. The genealogies play their rôle for the kingdom of the Messiah as for the cities of Hellas,¹ Hesiods of Jewish and Christian theology present their schemes of divinely appointed eras, and through the whole heroic period of the church, legends of saints and martyrs furnish the unending epic of the unending war, where the hosts of heaven fought with men, not for a vanished Troy but

¹ Cf. Julius Africanus's pioneer work in this direction, in harmonizing the variant genealogies of Christ in the Gospel, quoted by Eusebius, I., 7.

for an eternal city. Finally, the work of Christian logographi in the apologists—and every theologian was an apologist—reduced the scheme to prose. The parallel would not hold, however, beyond the merest externals if it had not been for the development of Christian chronology; for the thought of writing history was but little in the minds of theologians, and hardly more in those of martyrologists. From the apologists, face to face with the criticism of the unbelieving world, came the demand for more rigid methods of comparative chronology, by which they could prove the real antiquity and direct descent of Christianity. The same kind of practical need had produced similar, if more trivial, documentation by pagan priests and was later to repeat itself in medieval monasteries. So that in the Christian church, as in the antique world generally, history proper was born of the application of research and chronology to meet the exacting demands of skepticism, as well as of the desire to set forth great deeds.

The path to Christian historiography lies, therefore, through a study of Christian chronology. The basis for this was the work of the Jewish scholars of the diaspora. When the Christian apologists of the second and third centuries attempted to synchronize the Old Testament history with that of the gentiles, they could fall back upon the work of a Jewish scribe, Justus of Tiberius, who wrote in the reign of Hadrian. He prepared a chronicle of Jewish kings, working along the same uncertain basis of "generations" as had been used in gentile chronicles, and so claiming for Moses an antiquity greater than that of the oldest figures in Greek legend. The difficulties in the way of any counter proof lent this statement great value in argument, especially since it was merely a mathematical formulation of a belief already established in the church. But, although the argument of priority was familiar from early days, the first formally prepared Christian chronology did not appear until the middle of the third century when Julius Africanus wrote his *Chronographia*. It was a work in five books, drawing upon the writings of Josephus, Manetho and pagan scholars, and arranging the eras of the old dispensation in a series symbolical of creation itself. The duration of the world is to reach six thousand years, after which is to come a thousand-year Sabbath. The birth of Christ is put five thousand five hundred years from Adam, which leaves five hundred more before the end. Half-way along this stretch of centuries, three thousand years from the creation we come upon the death of Palek, under whom the world was parcelled out, as is recorded in the twenty-fifth chapter of Genesis.²

² Cf. the monumental study of Gelzer, *Julius Africanus* (1898), which has disentangled the fragile threads of his chronology as preserved in various ways.

A scheme like this is a chronology only by courtesy; and yet a glance at the dating along the pages of the authorized edition of the Bible will show how relatively close to it has been the accepted dating of the world's history down to our own time. Critically considered, it was merely a variation of the symbolism of Origen—an allegory of the general scheme of history instead of an allegory of details. It was symbolism on a bolder and larger scale, all the more convincing because while it supplied the frame-work for events it did not have to harmonize or explain them away. Three main influences made for its success. The absence of any continuous Jewish chronology offered it open field; theology demanded that the world's history should center upon the life of Christ and the coming of the kingdom; and the idea of world eras was just in line with the ideas of pagan savants who had attained a rude conception of natural law in the movement of history. A treatment of history which could appeal to the great name of Varro for its pagan counterpart was not lightly to be rejected. The best minds of antiquity saw—though dimly—the outer world as a reflection of the human reason, but what Platonic idea ever mastered recalcitrant phenomena so beautifully as this scheme of Christian history with its symmetry established by a divine mathematics?

One is tempted to turn aside to the absorbing problems of philosophy which these crude solutions of world history open up. But before us stands a great figure, a Herodotus among the logographi of the early church. Eusebius of Cæsarea, the father of Church History, worked out from materials like these the chronology of the world which was to be substantially that of all the subsequent history of Europe to our own time, and preserved the precious fragments of his predecessors in the first history of Christianity.³

Eusebius meets the two qualifications which Polybius prescribed as indispensable for the historian. He was a man of affairs, of wide knowledge of the world, and held high office in the state whose fortunes he described. He it was who at the great council of Nicæa (325 A.D.) sat at the right hand of Constantine and delivered the opening oration in honor of the emperor.⁴ Few historians of either church or state have ever had more spectacular tribute paid to their learning and judicial temper. For it was apparently these two qualities which especially equipped Eusebius for so distinguished an

³ The name Eusebius was a very common one in the records of the early church. There are 40 Eusebiuses, contemporaries of the historian, noted in Smith and Wace's *Dictionary of Christian Biography*, and in all 137 from the first eight centuries. Eusebius of Cæsarea took the surname Pamphilus after the death of his master Pamphilus, out of respect for him.

⁴ Cf. Sozomen, H. E., I., 19.

honor. At least one likes to think so; but perhaps the distinction fell to him because he was as well an accomplished courtier and as much the apologist of Constantine as of the Christian faith.

This incident fixes for us the life of Eusebius. Born about 260 A.D., he was at the fullness of his powers when the church gained its freedom, and he lived on until 339 or 340. He had studied in the learned circle of Pamphilus of Cæsarea, whose great library was to furnish him with many of his materials,⁵ and there came under the spell of Origen, whose influence was supreme in the circle of Pamphilus. Nothing is more difficult in criticism than the estimate of one man's influence upon another—and nothing more lightly hazarded. It would be hard to say what Eusebius would have been without the works of Origen to inspire him, but that they did influence him is beyond question. Eusebius was not an original thinker. He lacked the boldness of genius, but to witness that boldness in Origen must have been an inspiration toward freedom from ecclesiasticism and traditionalism.⁶ His history is no mere bishop's history, it is the record of a religion as well as of a church. Its scholarship is critical, not credulous. From Origen, too, may have come the general conception which makes the first church history a chapter in the working out of a vast world-scheme, the "economy" of God.⁷ But the time had now come for such a conception to be commonplace. It was no longer a speculation; the recognition by the empire was making it a fact.

If one were to search for influences moulding the character of Eusebius's history this triumph of the church would necessarily come first. No history of Christianity worthy of the name could well appear during the era of persecutions. Not that the persecutions were so fierce or so continuous as has been commonly believed. Eusebius himself, for instance, lived safely through the most severe persecution, and visiting Pamphilus in prison—for Pamphilus suffered martyrdom—carried on his theological works in personal touch with his master. But though the persecutions have been exaggerated, the situation of the church was not one to invite the historian. Constantine was its deliverer; in a few years it passed from oppres-

⁵ Cf. Eusebius' *Martyrs in Palestine, in loco*; Jerome, *De viribus illustis*, 75, 81.

⁶ These at least are the two main influences of Origen upon Eusebius according to McGiffert and Heinrici. Cf. McGiffert's edition of the Church History, p. 7, and Georg Heinrici, *Das Urchristentum in der Kirchengeschichte des Eusebius*, Leipzig, 1894. Heinrici here presents the case against F. Overbeck's view (*Über die Anfänge der Kirchengeschichteschreibung*, Basel, 1892), that Eusebius follows the hierarchical episcopal thread in a sort of constitutional history of the church.

⁷ Cf. Heinrici, *op. cit.*, p. 13.

sion to power. And in the hour of its triumph Christian scholarship was to find, in a bishop high at court, a historian worthy not only of the great deeds of the saints and martyrs but of the new imperial position of the church.

Eusebius was a voluminous writer, "historian, apologist, topographer, exegete, critic, preacher, dogmatic writer."⁸ But his fame as a historian rests upon two works, the *Church History* and the *Chronicle*. Both were epoch-making. The one has earned for the author the title of Father of Church History; the other set for Christendom its frame-work in the history of the world.

The *Chronicle* was written first.⁹ It is composed of two parts: the *Chronographia* and the *Chronological Canons*. The first of these is an epitome of universal history in the form of excerpts from the sources, arranged nation by nation, along with an argument for the priority of Moses and the bible. It is a source-book on the epochs of history, much like those in use to-day as manuals in our colleges. The second part consists of chronological tables with marginal comments. The various systems of chronology, Chaldean, Greek, Roman, *etc.*, are set side by side with a biblical chronology which carries one back to the creation, although the detailed and positive annals begin only with the birth of Abraham. The *Canons* therefore present in a single, composite form the annals of all antiquity—at least all that was of interest to Christendom. It presented them in simplest mathematical form. Rows of figures marked the dates down the center of the page; on the right hand side was the column of profane history; on the left hand the column of sacred history.¹⁰

The fate of this work is of peculiar interest. It is doubtful if any other history has ever exercised an influence comparable to that which it has had upon the western world; yet not a single copy of the original text has survived; the Latin west knew only the second

⁸ Lightfoot in Smith & Wace's *Dictionary of Christian Biography*. A brilliant article.

⁹ He already refers to it in the opening of his *Church History* (I:1), and also in the *Eclogæ Propheticae* (I:1) and in the *Præparatio Evangelica*, X:9. which were both written before 313. As the *Chronicle* when it reached Jerome was carried down to 325, it is conjectured that there may have been a second edition.

¹⁰ In the present text some profane history notes are on the left side, but this was due to the fact that the comments on profane history were fuller than those on sacred history, and were crowded over for reasons of space.

Eusebius was largely indebted for his plan to Castor, whom he invokes at the beginning and end of the lists for Sicyon, Argos and Athens. Cf. Gelzer, *Julius Africanus*, II., pp. 63 f.

On the relations between Eusebius and Julius Africanus see Gelzer, *op. cit.*, II., 23-107.

part, and that in the hasty translation of Jerome. Modern research has unearthed a solitary Armenian translation of the work as a whole, and modern scholars have compared this with the fragments preserved by Byzantine chronographers¹¹ until finally, in the opening of the twentieth century the work is again accessible—if only to the learned. If, however, recovery of the chronicle is a work of archæological philology, like the recovery of an ancient ruin, yet all the time that it had lain buried this little book of dates and comments had been determining the historical outlook of Europe.¹² For the next thousand years most histories were chronicles, and they were built after the model of Jerome's translation of Eusebius's *Canons*. Every medieval monastery that boasted of enough culture to have a scriptorium and a few literate monks, was connecting up its own rather fabulous but fairly recent antiquity with the great antiquity of Rome and Judea through the tables of Eusebius's arithmetic.

This anonymous immortality of the great *Chronicle* is easily accounted for. It was not a work of literature, but of mathematics. Now mathematics is as genuine art as is literature, art of the most perfect type; but its expression, for that very reason, is not in the variable terms of individual appreciations. It is not personal but universal. It does not deal with qualities but with numbers; or at best it deals with qualities merely as the distinguishing elements in numbers. The structure is the thing, not the meaning nor character of the details. And the structure depends upon the materials. Hence there is little that is Eusebian about Eusebius's *Chronicle*, except the chronicle itself. It has no earmarks of authorship like the style of a Herodotus or a Thucydides. But all the same its content was the universal possession of the succeeding centuries.

There is, however, a simpler reason for the fate of Eusebius's *Chronicle*. It has a forbidding exterior. It had even too much mathematics and too much history for the Middle Ages; they were satisfied with the results of the problem. But behind this forbid-

¹¹ Especially Georgius Syncellus. These chronographers preserved such large extracts that Joseph Scaliger was able to risk a reconstruction of the text from them alone. Scaliger's first edition was published in 1606, second edition in 1658. The Armenian version was published at Venice in 1818 by J. B. Aucher with a Latin translation. The text in Migne, that by Cardinal Mai (1833) is based upon this; but the classic work on the *Chronicle* is that of Schoene (Vol. I., 1875, Vol. II., 1866), while the Armenian text has recently been published with parallel German translation by Karst in the great edition of Eusebius' works now appearing in the series, *Die Griechischen Christlichen Schriftsteller der ersten drei Jahrhunderte*. It has also the version of Jerome, ed. by Helm.

¹² Joseph Scaliger refers thus to the influence of Eusebius. "Qui post Eusebium scripserunt, omne scriptum de temporibus aridum esse censuerunt, quod non hujus fontibus irrigatum esset." (Quoted in Migne, P. G. 19:14.)

ding exterior the modern scholar finds a synthesis of alluring charm. Parallel columns of all known eras extend up and down the pages; eras of Abraham, David, Persia, Egypt, Greece, Rome, *etc.* It is interesting to see this tangle of columns simplify as the diverse nations come and go; and finally all sink into the great unity of Rome. At last the modern world of Eusebius's own time was left but four columns, the years of Rome (A. U. C.), of Olympiads, of Roman Consuls, and of Christ. The rest was already ancient history. As one follows the sweep of these figures and watches the steady line of those events where the Providence of God bore down the forces of the unbeliever, one realizes that in this convincing statement lay the strongest of all defenses of the faith. Here, compressed into a few pages, lies the evidence of history for the Christian world-view. Origen's great conception that pagan history was as much decreed by Jehovah as sacred history finds in the *Chronicle* its most perfect expression; the facts speak for themselves.¹³ No fickle Fortuna could ever have arranged with such deliberate aim the rise and fall of empires. History is the reservoir not of argument but of proof, and the proof is mathematical.¹⁴

The human element of humor, however, comes into the situation when one turns back to the opening paragraph and learns the attitude of Eusebius himself. "Now at the very beginning, I make this declaration before all the world: let no one ever arrogantly contend that a sure and thorough knowledge of chronology is attainable. This every one will readily believe who ponders on the incontrovertible words of the Master to his disciples: 'It is not for us to know the times or the seasons, which the Father hath put in his own power' (*Acts* 1: 7). For it seems to me that he, as Lord God, uttered that decisive word with reference not merely to the day of judgment, but with reference to all times, to the end that he might restrain those who devote themselves too boldly to such vain investigations.'¹⁵

¹³ This view of universal history places Eusebius on a distinctly higher plane than that of a mere apologist. It enabled him to have somewhat of the Herodotean sweep and breadth. Cf. Heinrici, *op. cit.*, pp. 13 ff. Eusebius, *H.E.*, 1:7.

¹⁴ The translation of the *Canons* by Jerome, while apparently superior to the Armenian version, bears the marks of careless haste. He tells us himself (*Præf.* L:13) that it is an *opus tumultuarium*, and adds that he dictated it most hurriedly to a scribe. He must have meant, so Schoene thinks (p. 76), that he dictated the marginal comments, not the rows of figures. Likely a *notarius* translated the figures into Roman, and Jerome added the notes.

A great deal of discussion has arisen over the fact that in the *Church History*, Eusebius differs decidedly from the chronology of the *Chronicle*.

¹⁵ *Chronicle*, Preface.

We have left ourselves little space for the work by which Eusebius is chiefly known, the *Ecclesiastical History*. So far as students of theology and church history are concerned, little space is needed, for the work itself is readily accessible and that, too, in an English edition, and magnificently translated.¹⁶ But the general student of history seldom reads church history now, and the achievement of Eusebius shares the common fate. Yet it is a great achievement, and a genuine surprise awaits the reader who turns to it. One might expect that the age of Constantine would produce a history of the obscure, unstoried institution which had suddenly risen to the splendor of an imperial church, but one could hardly expect to find out of that arena of fierce theological conflict the calm and lofty attitude of generous reserve and the sense of dominating scholarly obligation for accuracy which characterize the first church historian. The judgment of Gibbon, that the *Ecclesiastical History* was grossly unfair,¹⁷ is itself a prejudiced verdict. To be sure it lacks the purely scientific aim, it is apologetic. But Eusebius is not to be blamed for that; the wonder is that he preserved so just a poise and so exacting a standard in view of the universal demands of his time. We should not forget that the apologetic tone of Christian historiography was also sanctioned by the pagan classics. Even Polybius had demanded that history be regarded as a thing of use, and Cicero, Sallust, Livy and Tacitus had applied the maxim generously. Christian historiography should not bear the brunt of our dissatisfaction with what was the attitude of nearly all antiquity.¹⁸

The *Ecclesiastical History* does not live by grace of its style. Eusebius had no refined literary taste; he wrote, as he thought, in rambling and desultory fashion. But he combined with vast erudition a "sterling sense," and a "true historical instinct" in choosing the selections from his store of facts and documents.¹⁹ Conscious of the value of the sources themselves, he weaves into his narrative large blocks of the originals, and in this way has preserved many a precious text which would otherwise be lost. The *Ecclesiastical History* is less a narrative than a collection of documents, for which

¹⁶ By Professor A. C. McGiffert, in *Nicene and Post-Nicene Fathers*, Second Series, Vol. I., pp. 1-403. The same volume contains a translation of the *Life of Constantine* by Ernest C. Richardson, and an exhaustive bibliography.

¹⁷ *Decline and Fall* (Bury), II:135; "He (Eusebius) indirectly confesses that he has related whatever might redound to the glory, and that he has suppressed all that could tend to the disgrace of religion;" adding in a footnote: "Such is the fair deduction from I:82, and *De Mart, Palast.* c.12."

¹⁸ This point is well made by H. O. Taylor in *The Mediæval Mind*, I., 78-81.

¹⁹ Cf. the fine characterization by McGiffert, in the Prolegomena to his edition of the *Ecclesiastical History*, pp. 46 ff.

every student of Christianity is devoutly thankful, and more thankful yet that the author was so keenly conscious of his responsibility. Wherever his references can be verified they prove correct, which gives a presumption of accuracy for those found in his work alone.

This scholarly accuracy was combined with a vast learning. Eusebius had enjoyed the freedom of the great library of Pamphilus at Antioch, in his earlier days. He tells us that he gathered materials as well in the library at Jerusalem founded by Bishop Alexander,²⁰ and Constantine seems to have opened his archives to him.²¹ But he learned not less from the busy world in which he lived. He was no recluse; he lived at the center of things, both politically and ecclesiastically. His genial nature blinded him to men's faults, and his judgment on contemporaries—particularly upon Constantine—are of little value.²² But even at his worst he seldom recorded any marvelous event without the Herodotean caution of throwing the responsibility back upon the original narrative. There is no better example of this than the account in the *Life of Constantine* of the emperor's vision of the cross. It was an incident all too likely to find ready that credence in Christian circles which it found in subsequent ages. But, however much a courtly panegyrist Eusebius could be, in matters of fact he is on his guard. His account runs soberly enough: "And while he was thus praying with fervent entreaty, a most marvelous sign appeared to him from heaven, the account of which might have been hard to believe had it been related by any other person. But since the victorious Emperor himself long afterwards declared it to the writer of this history, when he was honored with his acquaintance and society, and confirmed his statement by an oath, who could hesitate to accredit the relation, especially since the testimony of after-time has established its truth?"²³

For two centuries Christian worship had lain hidden behind the "Discipline of the Secret." The uninitiated knew little of what was held or done by the adherents of this intolerant mystery, "after the doors were shut." Constantine brought the new régime, when persecution and secrecy ceased. Eusebius had lived through the dark days of Diocletian, and although he himself had escaped—a fact sometimes held up against him—his dearest friends, and above all his great teacher Pamphilus, had been martyred. Free now to speak, therefore, he turns back from the "peace of the

²⁰ Cf. H. E., VI.:20.

²¹ Cf. H. E., V.:18.

²² The *Life of Constantine* is a panegyric rather than a biography; and it is unreliable even in questions of fact.

²³ *Life of Constantine*, I.:28.

church" to the years of persecution with a feeling for martyrs like that of Homer for heroes, of the Middle Ages for wonder-working saints.²⁴ He depicts their sufferings, however, not simply as the material for heroic biography, but as forming the subject of a glorious page of history, that of the great "peaceful struggle" by which the Kingdom of the Messiah was to take its place among and above the powers of this world. The martyrs of Palestine are fighting the Punic wars for the kingdom of Christ.

It was reserved for a greater intellect—that of Augustine—to carry this conception to its final form. But the outlines of Augustine's *City of God* are already visible in the opening chapters of the *Ecclesiastical History*, as its foundations were placed by Eusebius's master, Origen. The Messiah is not a recent Christ, but comes to us from the beginning of the world, witnessed to by Moses and the prophets. And when "in recent times" Jesus came, the new nation which appeared was not new but old, the Nation of God's own Providence—Christian and universal. The pæan of the victorious Church is sounded at the opening of its first history: "A nation confessedly not small and not dwelling in some remote corner of the earth, but the most numerous and pious of all nations, indestructible and unconquerable, because it always receives assistance from God."²⁵ This is the historical prologue to the *City of God*.

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SPAULDING'S FREEDOM OF THE REASON

IN his recent volume, *The New Rationalism*, Professor Spaulding advances the freedom of reason as one of the chief hypotheses of the New Realism. To him the *rationalism* of Neo-Realism appears fundamental to its *realism*; and rationalism consists essentially in the recognition of the sovereign autonomy of reason. Rationalism, according to Mr. Spaulding, is the position that acknowledges reason as "the court of last resort" (p. 79) and subjects all experience (including reason itself) to the test of reason. Neo-Realism, Mr. Spaulding seeks to show, is essentially such a rationalism, presupposing the freedom of reason. The importance of Neo-Realism consists in its discovery of a body of common principles universally presupposed by rational thought. These common principles, from which all philosophical systems are logically derived, are such principles

²⁴ Cf. Heinrici, *op. cit.*, p. 3.

²⁵ *H. E.*, I., chap. 3.

as withstand the criticism of reason by being affirmed in their very denial. Thus the ground of the autonomy of reason is recognized in the self-presupposing character of its postulates.

Among the presuppositions of reason is one of special significance, *viz.*, the principle of the independent relation between knowing and the object which is known. It is through this postulate that Mr. Spaulding's Rationalism becomes Realism. For the principle of the independence of cognition and its object (which is, moreover, empirically confirmed) involves both Realism and a narrower type of Rationalism (p. xviii). The presupposition that cognition neither creates nor affects its object implies both the independent reality of *facts of the senses* and the equally independent reality of *facts of the reason* divorced from nature and evolution (p. vii). It is reason with this narrowed significance, as a non-natural principle opposed to the world of sense, that plays the rôle of free reason in Mr. Spaulding's book. With the conversion of his Rationalism into Realism, the self-affirming autonomy of reason gives place to the negative freedom of Realism, the so-called *independence* of reason from the natural world.

But let us turn to Mr. Spaulding's own statement of his views. "Reason is free," says Spaulding, "in the sense that it is neither lawless nor yet causally determined by preceding psychical processes in the individual and the race, but that it follows whither it is led by the implicative structure of reality" (p. 427). Here reason is free in three senses: (1) it is not guided by caprice, but is law-abiding (whether or not it has the principle of law within itself); (2) reason can not be satisfactorily interpreted as causally determined by preceding natural processes; (3) reason is led by implication so far as this relation is present in the real.

We may begin with a consideration of the second: that reason is free of causal determination by the facts of its development. This independence, though stated specifically with regard to the psychical, would obviously apply no less to the physical antecedents of reason. On this view, reason is independent of its entire phylogenetic and ontogenetic history, both psychical and physical. Indeed the very function of reason presupposes that it is the criterion of itself, an organ capable of testing its own development, and hence logically fundamental to its history. But attention must be called to the fact that Mr. Spaulding is wrong in assuming the relation between reason and its history to be one of asymmetrical independence. Reason and its development reciprocally involve and presuppose each other. For reason, in fulfilling its function of criticism over the worlds from which it emerges in the historical process, hereby admits that

only as a product of these worlds and presupposing them does reason gain a meaning. On the other hand, reason is no less essentially the ground of nature, for only reason reveals the meaning of nature.

But Mr. Spaulding holds reason to be free from determination by the facts of its development on the further ground that universal causation is a "self-contradictory" hypothesis. In undertaking to postulate universal causation, we find ourselves apparently free to choose between causation and freedom as the basis of reasoning. This fundamental freedom to choose our assumption disproves universal causation, and shows freedom of reason to be the only "self-confirming" postulate (p. 392). Our objection to Spaulding's argument, however, is that it involves no more than a disguised appeal to immediate feeling. It falls back upon the psychological feeling of indeterminism¹ as the criterion for resolving the disjunction between causation and freedom, and hence entirely begs the question. Psychological immediacy and not the self-presupposing character of freedom is made the basis of argument.

Another consideration urged by Spaulding against the causal dependency of reason is the claim that reason is too unique, too individual a stratum of reality to be deducible from lower strata. Though the world of reason is undeniably built upon the worlds of physics, chemistry, biology, *etc.*, it yet remains distinct from all these realms. Reason superimposes upon them a specific, non-additive form of organization, involving properties quite different from the properties of the worlds on which it supervenes. Because reason is such a whole, possessing properties unlike those of its constituent parts, reason must be causally independent of its parts, *i. e.*, causally independent of the worlds which serve it as genetic base. In Mr. Spaulding's words, "no lower level causally determines any higher level" (p. 449). But such a statement can not escape challenge. While it may be admitted that reason can not be adequately interpreted in terms of naturalistic processes, yet certainly these processes throw light on the nature of reason. Again, reason does not fail to conform to the laws of the worlds below it; causal independence can not be claimed as absence of conformity. On the contrary, reason fulfills not only the laws of lower levels, but laws of its own in addition. The autonomy of reason, moreover, is grounded in the very interdependence of reason with the strata below it. These lower worlds furnish reason the material on which to act. The freedom of an isolated, independent reason would be entirely formal and meaningless. Only by accepting the lower worlds as

¹ The opposite *immediate feeling of being determined*, of course, could be cited equally well both as psychological fact and as the necessary assumption of our very ability to conceive universal causation.

organic content does reason gain a realm over which to exert its sovereign authority. By the power of criticism reason proves its sovereignty, sitting in judgment of the worlds and revealing to them wherein they are partial and inadequate. Reason shows itself "higher" than the realms of physics, chemistry and biology by manifesting itself both as inclusive of these worlds and as their true ground and presupposition. Yet while outflanking them with criticism, reason remains none the less dependent upon these worlds. Mr. Spaulding to the contrary, lower levels do determine the higher; only the lower levels in turn are outflanked and determined by the higher. Thus reason, while determined by the worlds below it, in turn includes these worlds and manifests itself as their fundamental presupposition.

Even granting that reason introduces a new organization with unique properties, the question remains how this excludes the possibility of explaining reason as causally determined by worlds of simpler organization. Wholes may be granted qualitative specificity, yet be regarded none the less as deductive combinations of their parts. The theorems of geometry, for instance, are wholes with unique properties, yet they are deducible from a handful of primitive axioms and postulates. Indeed Spaulding's denial of the possibility of deducing the higher from the lower stands in odd contradiction to certain accepted principles of Realism. Realism has generally maintained that parts are fundamental to the whole, and the whole dependent upon the parts. Reason, as represented by Spaulding, is a specific whole formed of certain constituents: physical, chemical, biological, *etc.* One would naturally infer that the withdrawal of any of these constituent parts would wreck the complex relation which is reason. But such apparently is not the case. The organization remains whether the material parts come or go (p. 449). Reason presumably would remain, though the worlds below it should disappear. This independence constitutes its freedom. Yet such a doctrine is directly counter to Realism's principle of the dependence of whole on part.

A similar difficulty is involved in Spaulding's advocacy of *analysis in situ*. This is a method by which it is claimed wholes can be analyzed into parts without falsification. The question naturally arises: why can not reason be reduced to its elements by such analysis and subsequently restored to wholeness? Mr. Spaulding would answer apparently that analysis is only inductive and empirical. Analysis dissects into parts, but is unable to recombine them and deduce the whole. Accordingly the relation between higher and lower levels of the real can only be discovered empirically

(p. 449). Against this, it must be contended that there is no induction without deduction, no analysis without synthesis. Kant's analytic regressus to presuppositions (a method to which Mr. Spaulding is not inconsiderably indebted) involved no less a transcendental deduction. Did not Mr. Spaulding himself apply his analytic method to deductive purposes, his argument would come to naught. Only by assuming the conclusions of his inductive analyses to be deductions is he able to claim their universal validity. Mere analysis, for instance, could not show universal causation to be a self-refuting concept. Though the presupposition of causation is freedom, so far as analysis goes the presupposition (freedom) and the conclusion (causation) are independent. Freedom and causation simply belong to different *loci* of the real. Analysis would have no right to deduce a necessary connection between the two; nor could there be any sense in holding that one contradicts the other. Only when supplemented by deduction, does analysis become adequate to the study of the real.

Lastly then, Spaulding can not prove the independence of reason from its development by citing empirical evidence for non-causal relations. It is true that the methods and results of the exact sciences furnish instances of relations other than causal; while by *analysis in situ* entities are studied in isolation from their historical setting with apparent success. But empirical induction from a finite number of cases can never achieve deductive certainty. Further, the method of *analysis in situ* or ideal elimination can never attain complete truth because it overlooks the unreality of abstraction. Consciousness has a certain psychological power of free postulation, by which it can ignore its own origin (p. 457) and assume things "as if" they were different than they are. This psychological indeterminism is the basis of *analysis in situ*. But reason knows well enough that the change or withdrawal of parts in a real whole never leaves the whole unaffected. To overlook the unreality of abstraction and to accept hypothetical freedom is to fall back on the play of imagination and indeterminism. It is to ignore the self-affirmative power of the mind which is the true nature of freedom. Our conclusion is that Spaulding has failed to show that reason is independent of determination by its historical development. Freedom in this sense is found to lack the objective and logical foundation which reason demands.

But Mr. Spaulding claims freedom of reason of another kind: *viz.*, reason is free to follow the implicative structure of reality. Reason must be free, because only on this assumption can we explain its peculiar function of discovering implications (p. 392). "The

function of discovering implications is reason's peculiar *quale*" (p. 393). The performance of this function involves more than an acceptance of bondage to the objective order. Though reason acts "in accordance" with the characteristics of objects at a certain level, it is never causally determined by a necessity in the objects. Reason is only "inherently determined" by its own nature. For Realism, this amounts to saying that reason is determined by its own free power of indeterminism. For the nature of reason seems to consist in freedom to postulate and to shift at will from one universe of discourse to another. Behind reasoning and its objects remains the psychological freedom to postulate and to choose, just as behind sense-data is presupposed the selective activity of perception. Hence although all mention of subjectivity is ruled out, the principle of psychological indeterminism guides reason in its discovery of implications in reality.

The limited scope of implication in the objective order requires the assumption of indeterminism as a supplementary principle. "Implication . . . seems to subsist between some propositions, but not . . . among all" (p. 413). Threads of objective necessity do not hold throughout the universe. Truth is *one* system, according to Spaulding, only in the sense that it is composed of consistent truths; and consistency means no more than the "givenness of the co-presence" of truths together (p. 490). Truths are not necessarily implicative or constitutive of each other (pp. 427-428). Hence where threads of implication break down, reason would seem obliged to fall back on a principle of groundless selection in choosing a new universe of discourse. Indeterminism would be called in to supplement implication.

The discovery of indeterminism at the root of reason, as represented by Spaulding, makes it impossible to say why the relation between reasoning and its objects should not be entirely arbitrary. If the terms of the relation are subject to free postulation and selection, what reason can there be for the relation itself remaining uniform in different cases? Spaulding himself holds empirical analysis to have shown the relation between knowledge and its object to be one of functional correlation. But an empirical method can not furnish conclusive evidence. At the most, it only gives probability based on the number of particular cases examined. A multitude of other relations might subsist in other cases, or even fail to be brought to light in the cases examined. Again it is primarily a negative method. By showing the apparent impossibility of the causal relation in a given instance, the presence of the functional relation is thereby wrongly assumed to be proved.

Moreover, Realism has failed to prove the independence of knowledge and its object. Realism's central doctrine of independence is based upon the "solution" which it offers of the ego-centric predicament. The "solution" is successful in exposing the fallacy of certain idealists, who argue from the fact that everything known is in relation to consciousness, to the conclusion that consciousness is solely constitutive of the real. But thereupon Realism in turn commits the same fallacy—only drawing the opposite conclusion. The realist's error likewise consists in identifying relation with presence to consciousness; only he concludes that by a withdrawal of consciousness, knowledge and its object can be shown to be independent. Realism, being itself guilty of the ego-centric fallacy, thereby invalidates its proof of the independence of cognition and the object. Narrowed to rational knowledge, this means that reasoning has not been shown to be independent of the object reasoned about.

Finally, we may return to the first sense in which Spaulding claimed the freedom of reason: *viz.*, that reason is law-abiding. According to our findings, the reason represented by the New Rationalism lacks the principle of logical self-determination or law within itself. It is not law-abiding in any true sense, because it is not rationally determined through itself. Indeterminism is everywhere the presupposition of reason. It is represented as reason's essential nature. Not only is it necessary in the discovery of implications, but where implication breaks down indeterminism is called in to choose new postulates for reason. Secondly, Realism has destroyed all possible autonomy or unity of reason through its sharp division of the acts from the objects of reason. Reason is divided into two independent series; while within these series, each term is independent of every other. Such endless pluralism arising from the realist's distinction between the acts and objects of reason must prove fatal to any conception of a unified, self-determined freedom. Lastly, the realist can not hold reason to be law-abiding because for him it is never a completely implicative whole, and hence never truly "self-affirming." Though he may point out that reason follows the law of its own positive peculiarities, this is not the same as determination by itself as a whole, which is freedom. For the realist, reason can never have true autonomy or self-determination because it can never be a completely implicative system. Implication always breaks down at some point; hence the laws of reason flow either from certain peculiarities of the parts or from a fountain of indeterministic psychical activity introduced as a *vis a tergo*.

Our conclusion is that the reason represented in Mr. Spaulding's

Realism can never have autonomy or freedom as a universal principle. The truth of this follows from the fact that reason is never recognized by him as a completely implicative or self-affirming whole. According to Realism, the freedom of reason rests upon the claimed discovery of the independence of knowing and the object known. But a freedom based on independence particularizes reason and defines it by negation. Moreover the very relation of independence has not been satisfactorily proved by Realism. The only freedom left in which Realism can take refuge is psychological indeterminism, a freedom hardly worthy of the New Rationalism.

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A NOTE FOR THE HISTORY OF AFFECTIVE PSYCHOLOGY

IN the conclusion to Lange's monograph on the emotions, occurs the well-known passage on the relation of the emotional life to the vasomotor system. "It is to the vasomotor system," he says, "that we owe the whole emotional side of our psychic life, our joys and our sufferings, our hours of happiness and misery. Were our sense impressions not strong enough to excite its activity, we should go indifferently and apathetically through life. All impressions from the outer world would enrich our experience, increase our knowledge, but would move us neither to joy nor to anger, gloom, or fear."¹ In his notes to this passage he refers to Spinoza as one who most closely of his predecessors approached his theory and to Girolamo Bocalosi, a physiognomist, as a possible second.

There is however in the obscure figure of J. J. Reich, a pupil of the famous G. E. Stahl, of Halle, an exponent of the close relation of the affective life of an individual to the condition of his body. But whereas the theory of Lange makes the vasomotor system the cause of the emotional phenomena, Reich believes that the emotional phenomena cause the disturbances in the body, not mere "expression of emotions," but actual variations in the blood.

At Halle in 1695 Reich submitted to the faculties a dissertation on the bodily effects of the emotions, *Passionibus Animi Corpus Humani Varie Alterantibus*. This piece of work has only the interest of being curious, and in outlining it here no pretense is made of having discovered anything of major importance.

It proceeds by a show of deductive accuracy gained through Theorems and Corollaries, all backed up by legendary examples of

¹ C. Lange, *Die Gemuetsbewegungen*, 2te Aufl., tr. von H. Kurella, Wuertzburg, Kurt Kabitzsch, 1910, p. 79.

so-called scientific principles. Not only is its method questionable, but also its physiological and psychological presuppositions. Reich still believes in the close union of the blood and the soul (Theorem II.) and in the existence of the pre-Galenic humors (Th. V., XII., to XV.). His attitude, however, emphasizes their psychical concomitant and he seems to feel himself rather revolutionary in urging that the soul be considered the cause of all "internally aroused" (*quæ in humano corpore ab intra fiunt*) phenomena. In such cases we shall see that "the temperament of the body follows the comportment of the soul" (*Ibid.*).

Reich's interest in the emotions is the interest of the physician. "It can be clearly seen," he says, "that man's health and life and preservation depend primarily on the tranquillity of his soul and thence upon the even and measured movements of his material parts, and through these upon the even and measured movements of the blood and the remaining fluid parts. When these are disturbed, the whole mechanism of the human body languishes, totters, and is indeed jeopardized" (Th. II.).

The emotions are the cause of such disturbances. In their train come many diseases (Th. IV.). Anger has been known to cause dumbness, apoplexy, paralysis, fever, (Th. XXI.) and to affect mother's milk (Th. XXII.). As an example of some of the effects of anger he cites a boy whose head was hurt and skull fractured. The patient was getting along nicely and quite out of danger when he was moved to anger. "He relapsed into a fever and delirium with the result that on the fourth day afterwards he departed this life" (Th. XXII.). The explanation is that the violent commotion in the soul so increases the circulation of the blood that the cerebral membrane is inflamed and becomes swollen with both venous and arterial blood (*ibid.*). Fear and terror, like anger, also produce fever and epilepsy (Th. XXVL.). Gloom or depression (*tristitia*) has been known to turn the hair white and to produce abortions. Reich cites the case of a boy whose hair turned white over night because of the *tristitia* brought on by a sentence of death (Th. XXIII.). These emotions are all undeniably harmful. Hope, faith, and love in contrast are very useful if moderate, "not only in preserving health but in restoring it. For no passion is harmful so long as it preserves the equilibrium of the flow of the blood" (Th. XX.). Yet if love becomes too intense it produces no end of trouble (Th. XXVII.).

Though the passions themselves are psychical, some of them have an undeniably physiological origin, this in spite of the main thesis of the dissertation. Reich here follows the traditional dichotomy of approach and withdrawal. All the passions are either an in-

clination to possess or "unite with" a pleasing object, or an inclination to flee or repel an unpleasing one. It is the latter class whose physiological origin is the more obvious (Th. VIII.). Again they may be divided into those passions which are stimulated by a "strong impression of external things" and those which take their rise in the habitual inclination of the mind towards certain objects (Th. IX.). I have not found in Reich's dissertation any statement of the identity of these two divisions, that is a statement of whether the "approaching" emotions are the internally aroused and the "withdrawal" emotions are the externally aroused, or whether there is no connection at all. One looks for some such statement since the theorems just summarized are followed by one which says that the internally aroused emotions are the remote and mediate causes of disease, whereas the externally aroused are immediate and proximate (Th. V.). There is no need for a second observation on Reich's consistency.

Be that as it may, the attitude of the soul towards its objects determines certain motor effects, such as flight, approach, attack.² These motor effects themselves seem to be of two general kinds. "Either the soul extends the radii of its influence . . . from the center to the periphery, whereupon the movement becomes greater, or draws them in from the circumference towards the center, whereupon the movement is diminished or destroyed for the time being" (Th. XVI.).

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REVIEWS AND ABSTRACTS OF LITERATURE

Proceedings of the Aristotelian Society, 1918-1919. New Series, Vol. XIX. London: Williams and Norgate. 1919. Pp. 311.

This volume of the *Proceedings* is smaller than in the years immediately prior, because the symposia, which beginning with the volume previous to this were printed also separately, are in the case of this present volume printed only separately. So the *Proceedings* of 1918-19 are thus in two volumes, of which only one is the subject of the present review.

The general impression of these papers, despite their diversity of titles, is, to the present reviewer at least, one of similarity of mood and character, hard to specify, yet felt through all the differences. They are, more than in previous years, tentative, suggestive, incomplete. Paper after paper seems striving towards something that is

² Cf. Aristotle's *De Anima*, Bk. III., Ch. VII., 431a.

glimpsed, yet never quite attained. The idealists are critical of idealism; the realists, of realism; the Bergsonian complains we are isolated units save where matter unites us; and the pessimistic theologian rebukes those who hope for personal immortality. Almost every contributor seems to be approaching, each in his own peculiar way, one subject: "What are we to make of the curious fact that there are many minds, and what do these many minds do when they severally think about the world, and what may their future be?"

If the best in this volume only rarely reaches up to the level of the best in the year just preceding, the average level is even higher. One paper, Dean Inge's characterization of Platonism, full of astonishing phrases that linger in one's memory, rises at the close to a height scarcely attained elsewhere in either volume. Among the other papers here, the reviewer is perhaps making invidious distinctions if he specially recommends John Laird's and J. B. Baillie's keen and constructive criticisms of certain types of idealistic argument, and the interesting angle from which A. E. Heath surveys "the scope of the scientific method." But this is to discriminate against others almost equally good: the able effort of A. F. Shand to link up value-theory with his own profound analysis of the emotions; or C. D. Broad's critique of the mechanical and the teleological, which adds one more to the series of acute studies of special problems which he has recently been giving us, each handled with a sanity and originality most refreshing and attractive. It must be said of this last paper that, for once, Mr. Broad's scientific apparatus seems unnecessarily cumbersome and pretentious for the result achieved, but the closing pages are eminently worth while.

If we have so far left unmentioned the Presidential Address by G. E. Moore, it was that it might serve as a text for a special discourse. The address stands in remarkable contrast with the notable paper by Bertrand Russell, which opens the above-mentioned symposium volume. They represent, apparently, two tendencies already latent in an unstable compound we were calling, a while back, by the name New Realism. Since those happy days of innocence and epistemological monism, when things called selves knew directly other things physical, called tables and brickbats, and knew also things mathematical, such as two and three, and liked the latter rather better, but granted them all an equal reality,—since those happy days, Mr. Russell has come far. Some parts of him have, it would seem, come faster than others, so that pieces of him may still be caught lingering at various points along the road. But as the "real Mr. Russell" has been found to be only an artificial construct, we should not, perhaps, be too much shocked by this disintegration.

Meanwhile Mr. Moore has stayed at home; but owing to the fact that he has employed his time in picking the family mansion to pieces, he is now almost as much "abroad" as Mr. Russell.

Mr. Russell has been through a wide orbit, traversing a region somewhere between Berkeley and Leibniz. You looked for him in the same quarter of the heavens where you looked for the idealists; only you did not dare to call him that, for Mr. Russell long ago committed himself, in print, to the opinion that idealists are a contemptible lot, and Mr. Russell never changes his moral judgments, for they are subjective, and therefore within his control. So when he flashed upon a novel thought, the thought that all that is, is *idea*, he did not use any such tainted language to express it; but told us, instead, that all that is, is "a six-dimensional manifold of perspectives of sensibilia." A physical thing is the sum of its appearances in the various perspectives, only in certain cases nobody is there to see a number of these appearances. Indeed, Mr. Russell seems to have recently discovered that in no case is anybody there to see. That a thing is to be considered as nothing but the sum of its appearances, is what Mr. Moore, in the volume we are here reviewing, denominates the Mill-Russell theory of objects. The ordinary notion of object is wrong, according to Mr. Russell, because when two people look at the same object, what one sees is not what the other sees, therefore there is no same object. Hence each experiencer is, at any moment, living in a world all his private own, his own momentary perspective. But how did the two people ever find this out? How did they even ever suppose they were looking at the same object, if they are thus shut within themselves? Mr. Russell's premise says they looked at the same object and thus discovered an interesting discrepancy. From this, Mr. Russell draws the conclusion that his premise is not true. Had Mr. Russell, in the old days, found, in an idealist book, anything like this conclusion that destroys its own premise, he would have hailed with delight such a self-refutation of idealism. Meanwhile Mr. Russell might have been forgiven the way he arrives at the Mill-Russell theory, if only he had used it as a scientist would use an hypothesis, working it for all it was worth, deducing with precision all its consequences. But it must be confessed that, so far, we have had from him, concerning perspectives and Mill-Russell objects, only some confusedly intuitionist and cavalierly unscientific expositions, plus a promise that some day Mr. A. N. Whitehead will supply us with precise details.

But Mr. Russell's orbit has now swept him along into a new region. He has become a behaviorist. He has dropped the epistemological subject. He dallies with William James's theory, that the

mental and the physical are two different ways in which the same things are put together. He has adopted almost everything we had been accustomed to associate with American New Realism. Whether the cometary tail of his theory of perspectives, which he still pulls along behind him, will survive in this new atmosphere, remains to be seen. For behaviorism has meant, to those who held it hitherto, the right to start with a common world, a common world which, in some sense, endures through time, and in which we all move about. The structure of this common world is not reducible to its qualities, and it is by means of the structure that we come to compare qualities. You and I may disagree as to whether the house-door is red or yellow. But I know we are discussing the same door, for you use it to enter the house the same as I, and do not attempt to walk through the blank wall. Mr. Russell would probably characterize these remarks as rather crude; but he long ago said, and wisely, that in such matters the crude view is often nearest right. But in any case the fact remains, that American realists have clung to behaviorism, even to the brink of a radical materialism, precisely because they felt it to be the road of objectivism, the road away from Berkeley and from Leibniz. We await with interest Mr. Russell's future synthesis of incompatibles.

While Mr. Russell has thus been exploiting the idealist and subjectivist tendency in epistemological monism, Mr. Moore has been leaning the other way; with the consequence that now he seems about to topple over into epistemological dualism, much to his own disgust; so that the paper before us is composed of a series of violent contortions performed on the ragged edge, wherein Mr. Moore is trying desperately to keep his balance and not fall over the line.

Mr. Moore is seriously worried over what it is I see when I see an inkstand. What surprises us in Mr. Moore, is that he here shows himself alarmed by those same old bogies which we had supposed all new realists, as part of their initiation into the arcana of the sect, had long since unmasked and exorcized. What I see, as the inkstand, looks different when I put on blue glasses; therefore what I see can not be part of the inkstand. Now surely, in so far as we can clearly distinguish thus between the inkstand that is, and the inkstand that appears,—surely there is, so far, no reason for denying we know the inkstand that is. The possibility of making the distinction is also the possibility of rising above it. The trouble is that a next move is then introduced, to the effect that both cases are merely two cases of the inkstand that appears, and some inkstand that really is, lies yonder beyond and unreachable. But if there is to be any such second move, it ought rather to be a criticism of the

inkstand that appears, a criticism which points out that this inkstand has as much right,—not as little right,—to be called the real inkstand as has the other. If it looks blue under certain circumstances, then it is the real inkstand that looks blue,—there is only one inkstand involved. Indeed you must say that under these circumstances it simply is blue. The phrase “looks blue” merely calls our attention to the fact that there are peculiar circumstances. There is no more puzzle about the real inkstand being both blue and not blue, the one in one context, the other in another, than there is in the same piece of gold leaf being yellow in reflected light and green in transmitted light, though the place where I see the yellow and where I see the green is one and the same place. So also, the same inkstand is moving or not moving, according as you choose your axes of reference; heavy or light, according as you consider its potential gravitational acceleration towards the earth or towards the moon. We deal in each and all these cases with physical effects of physical causes; there is no need for, and no meaning in, lugging into the discussion any references to any realm of the subjective or the mental.

But perhaps Mr. Moore would still feel that this was not meeting his difficulty. He might even suspect that we were thus merely coming to the Mill-Russell theory from another angle. We are calling the little blue something in one set of circumstances the same thing as the big white something in another set. It is like the jack-knife that was still the same old knife after it had had new blades substituted for the old ones, and also a new handle. What do we mean by “the same”? Or again, the scientist tells us that this same solid inkstand is about as “full of empty space” as is the starry sky, lonely electrons wandering afar from one another. Once more, what in this sameness in things so different? There would seem to be no way of avoiding the conclusion that “the same with” means “standing in a specific relation to,” and that the “thing” of naïve realism must be dissolved into a relational system. In so far, the Mill-Russell theory is right.

Where the Mill-Russell theory turns the situation upside down, is when it assumes the elements of the relational system are given data, to be identified with the various “appearances of the thing,” but the system itself is constructed by us, so that a perspective is simpler than the common world, which common world is made out of perspectives. Surely this is to reverse the logical priority. An appearance of something, such as how the inkstand just now looks to me, is one of the most complex parts of the total thing-system, being the composite resultant, the summed effects, of a most complicated

tangle of causes. Its apparent simplicity vanishes the instant you try to make it a starting-point for inference. It is therefore exceedingly undesirable that we begin with such a given block datum as the center of our theory of a thing-system. No analysis can break up such a datum into suitable elements by direct attack; no inference can be safely based on it as a unit.

Perhaps an analogy will bring out the character of the situation. The given datum of astronomy is the easily observed circular movement of the heavens. Building on this datum, we should naturally arrive, almost at a single bound, at something like the Ptolemaic astronomy. And of course Ptolemaic astronomy is theoretically possible: you can take the earth as the center, and any orbit of any heavenly body can be mathematically resolved into a system of circular motions relative to this center. And we may grant the Russell theory of perspectives exactly the same type of theoretical possibility. But Copernican astronomy, in this respect quite contrary to Ptolemaic, runs violently in the face of what seems the very evidence of the senses. It declares the motions of the stars are not simply what they seem to be, but the appearance of the heavens to the observer on the earth must be interpreted as the resultant of a great complex of factors. Yet the Copernican astronomy has prevailed. It has prevailed because of a certain objective simplicity; while the snarl of Ptolemaic epicycle on epicycle made that astronomy utterly unmanageable.

Mr. Russell, in his theory of perspectives, would start, like Ptolemaic astronomy, with the given mass-impression. He is at one with the traditions of British empiricism in clinging to the given datum; logician though he is, he fears to venture forth into any sea of speculation where thought is one's compass and guide. The real is the verified and the verified is always quality given, hard, stubborn, uncontaminated. So he would take a now given, unanalyzed, three-dimensional appearance, and put it along with other similar, and supposedly somewhere given appearances, to form a three- or four-dimensional manifold, which has three-dimensional manifolds for elements. He would thus try to arrive at a common world by construction. He pursues this cumbersome method because he wants to start from, and keep close to, what is indubitably given. Genetic psychology insinuates a doubt as to the immediacy with which any one perspective is given as ordered in three dimensions, but he puts such suggestions aside as illegitimate, for this might knock out the only solid starting-point he has,—and then where would he be? But even though we grant to his method a certain sort of theoretical possibility; we must insist that its claim to superior certainty is unjustified. At the first move it makes, it has already transcended the

given, and possibly transcended it in a way as rash as the first inference of the naïve spectator beholding the march of the stars, who jumps to the conclusion, almost forced on him by his senses themselves, that obviously he is the center around which the universe revolves. Mr. Russell seems to forget that what is near to the indubitable may be exceedingly dubious.

It is more desirable that we start with assuming the common world, and explain, for instance, the appearance of the inkstand, as due, one factor in it to one set of causes, another factor in it to another set of causes. We thus build up the given datum, and not the world. We arrive at the given at the end of our thought-process, and do not begin with it. Of course, as always happens when we start with what are in the order of knowledge hypotheses no one given datum can ever be a complete verification of our theory. But what we, in the order of knowledge, are feeling after by hypotheses, is, in the order of nature, not hypothesis nor knowledge, but the common world itself. And we may fairly assume that science brings us into the closest contact we have with that world. And so we feel justified in taking the inkstand as it is *thought of* by science, not as being more nor less real than any of the ways it appears to the senses, but as being more properly the suitable center and starting-point, the key-position, from which to grasp the structure of that system which we call "one thing." We feel justified in starting this with the common-world. Why? Because it is more probable, from the standpoint of any really sound logic, that a common-world exists, and that the other minds are thinking therein, than it is that I saw a blue inkstand half a minute ago, or see one ten feet away from me now,—and Mr. Russell in his heart of hearts knows that this is so.

H. T. COSTELLO.

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JOURNALS AND NEW BOOKS

REVUE DE MÉTAPHYSIQUE ET DE MORALE. July-August, 1919. *Correspondance inédite de A. Spir. Lettres à A. Penjon* (pp. 425-441): A. SPIR.—These letters contain comments explanatory of certain points in Spir's idealistic metaphysics. The ideality of time, the status of the finite self, and the relation of the Absolute to our knowledge are among the topics discussed. *L'idée du néant et le problème de l'origine radicale dans le néoplatonisme grec* (pp. 443-475): E. BREHIER.—The "negative theology" of Neo-Platonism is significant not only because of its discovery that Reality is ultimately indescribable, but also as an attempt to deal with the

problem of ultimate origin. In attacking this problem the Greek neo-platonists distinguish between two kinds of non-being; a non-being which implies simply negative predication, and a non-being which is freed from all limitation by reason of its complete indeterminism, and may be considered superior to and the source of all being. The neo-platonic doctrines concerning $\sigma\tau\epsilon\lambda\epsilon\upsilon$ are considered as an attempt to describe this second kind of non-being. The views of Plotinus, Proclus, and Damascius are discussed. *L'attitude religieuse de Jésuites et le sources du pari de Pascal* (pp. 447-516) *A suivre.*: L. BLANCHET. — With a view to effective proselytizing the Jesuits tried to adjust their religious position to the spirit of Humanism and Renaissance science. Pascal, as a thorough Jansenist mystic, opposed their concessions to rationalism in theology and to naturalism in ethics. But Pascal's famous pragmatic argument for belief is of Jesuit origin, and is to be found in the work of Père Sirmond, *Immortalité de L'Ame*. This apparent paradox is a subject of discussion in the next issue of the Revue, where this article is completed. *Notes et Discussions. À propos de la Démonstration Géométrique. Réponse à M. Goblot* (pp. 517-521): L. ROUGIER. — L. Rougier criticizes M. Goblot for "geometrical empiricism," since he makes geometrical demonstration depend upon spatial intuition in the examination of concrete figures. *A propos du Fondement de L'Induction* (pp. 523-527): S. GINZBERG. — The principle of the uniformity of nature is the basis for inductive method. Royce's doctrine of induction based on "a fair sampling of instances" is seen to imply this principle. *Questions Pratiques. Réflexions sur le Droit de la Paix et la Société des Nations* (pp. 529-568): R. HUBERT. — An attempt made in the closing months of the war to set forth the essential conditions of a permanent peace. Such a peace must be based upon "right" or justice, which means respecting individual and collective personalities. With this premise in mind the questions of territorial claims, reparation, and a "society of nations" are considered. The latter is essential to secure international justice.

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Trotter, W. *The Instincts of the Herd in Peace and War* (Revised and enlarged). New York: The Macmillan Co. 1920. Pp. 264.

Turner, J. E. *An Examination of William James's Philosophy: A Critical Essay for the General Reader*. Oxford: B. H. Blackwell. 1919. Pp. vii + 76. 4s. 6d.

Woodburne, Angus Stewart. *The Relation between Religion and Science: A Biological Approach*. Chicago: University of Chicago Press. 1920. Pp. 103. \$.75 net.

Ziehen, Th. Lehrbuch der Logik, auf positivistischer Grundlage mit Berücksichtigung der Geschichte der Logik. Bonn: A. Marcus & E. Webers Verlag. 1920. Pp. 866. Br. M. 47.50. Geb. in Ganzleinen M. 55.50; Halbfranz M. 59.50.

NOTES AND NEWS

THE following is the preliminary announcement of the plans for this year's meeting of the Western Philosophical Association:

The next annual meeting will be held at the University of Wisconsin, Madison, Wis., on Friday and Saturday, April 16-17, 1920.

The afternoon session of Friday will be devoted to a consideration of the question, "What May Philosophy Contribute to the Further Development of the Social Sciences?" Members are urged to present papers on this topic and to cooperate toward securing a fruitful and pointed discussion of it.

One session will be set aside for papers on logical and epistemological issues; another will provide for papers on any other philosophical subjects which members may desire to discuss.

Arrangements are under way for a luncheon on Saturday, to be followed by an informal meeting at which, without prearranged programme, members may bring forward for general discussion any matters of common interest.

The prospects as regards attendance are unusually gratifying and, in connection with inquiries that have come regarding the meeting, five papers have already been offered. Those wishing to present papers are therefore requested to communicate the titles to the Secretary at the earliest possible date. It is of importance that our time limit of twenty minutes be carefully observed. Abstracts of all papers should be in the hands of the Secretary not later than April 1st.

EDWARD L. SCHAUB,
Secretary-Treasurer.

EVANSTON, ILL.,
February 23, 1920

A MEETING of the Aristotelian Society was held on January 19th, Professor Wildon Carr, vice-president, in the chair. Professor J. A. Smith read a paper on "The Philosophy of Giovanni Gentile," which began with a general characterization of the remarkable re-birth of idealistic philosophy in Southern Italy. That philosophy, as exemplified in the systems of Croce and Gentile, builds up the foundation

of history, which it conceives of as the content of experience self-created by the mind that seeks the theory of it. The special problem now before philosophy is the understanding of history, and *imprimis* of its own history. An endeavor was made to trace the stages in the formation of Gentile's thought—its gradual enlargement from a theory of education into a universal metaphysics. This development culminates in the assertion of the identity of mind's essence with its existence; it is the process of its own gradual self-creation. The doctrine that mind is *atto puro* is taken and employed by Gentile as the guiding principle of a new form of absolute idealism. As compared with Croce he insists more upon the unity of mind or spirit, while recognizing certain absolute forms of it as issuing from it and constituting its concrete being or filling. Philosophy is the supreme form of self-consciousness, and so finds in itself the clue to all that mind is or has created—itsself and its world. This principle, once accepted, applies itself and advances by an immanent dialectic. No reality outside mind and its activity is needed to account for experience. The paper concluded with an attempt to render the central idea of Gentile's philosophy more familiar, and to meet a few objections to its apprehension and acceptance.

THE *Revista di Filosofia Neo-scholastica* announces in a recent number that its competition for the best essay on the philosophical and theological doctrines of Dante has been extended to January 31, 1921. A notice of this competition and the rules governing the writing and submission of the essays appeared in this JOURNAL, Vol. XVI., p. 84 (January 30, 1919).

PROFESSOR WILMON H. SHELDON, of Dartmouth, has been appointed professor of philosophy at Yale to succeed Professor A. K. Rogers. Professor Rogers is retiring from active work, but will continue to live in New Haven and devote himself to writing.

DEAN C. E. SEASHORE, of the University of Iowa, delivered a lecture on "The Psychology of Musical Talent" at the University of Kansas on March 1, 1920.

PROFESSOR WOODBRIDGE RILEY, of Vassar College, is sailing for France to deliver a course of lectures at the Sorbonne upon "Representative Americans"—Franklin and Jefferson, Walt Whitman, Lincoln, Roosevelt and William James.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE PRESENT SITUATION IN PHILOSOPHY¹

AMERICAN students of philosophy should take a lively interest in the inaugural lecture of Professor Kemp Smith at the University of Edinburgh. After sojourning some thirteen years or more in the United States, during which time he was professor of his subject at Princeton University, our friend and colleague was elected to succeed Professor Pringle-Pattison, and on assuming the responsibilities of his chair, chose, as the theme of his inaugural address, "The Present Situation in Philosophy." It is one of the most interesting and one of the most perplexing topics. Any sympathetic analysis of it just now should help to bring about that more generous appreciation of human problems which ought to go along with a more generously social orientation, and a better understanding of history. This most recent examination is very sympathetic and admirably candid; it ought to be widely read and thoroughly discussed.

Such a discussion should, the present reviewer believes, begin with a new orientation. We do not quarrel with Dante or with Saint Francis, and we should not do so with Plotinus or with Hegel. Great imaginative traditions are a human possession that most Americans little appreciate, cut off, as they are, from the world of art in which those traditions have found perhaps their most appropriate expression. The idealizing imagination has been wrought into a system by a succession of noble thinkers. The substance of that system is no less of the imagination, its real concern is no less serious because we call it metaphysics and dispute, often quite provincially, about details of evidence and dialectic. Idealists frequently insist, and they have every right to do so, upon the continuity of their doctrine with the greater past. Theirs is after all a vision, which a lover of Chartres and of Assisi ought to recog-

¹ An inaugural lecture delivered at the University of Edinburgh on the sixteenth of October, 1919, by Norman Kemp Smith, Professor of logic and metaphysics. Edinburgh: James Thin, 54 South Bridge. 1919. Pp. 31. Reprinted in full in the *Philosophical Review* for Jan. 1920 (Vol. XXIX, pp. 1-26).

nize. The lecture gives, however, the old orientation. Let me summarize as briefly as I can the description it presents.

I

The history of philosophy shows three current attitudes, skepticism, naturalism, and idealism. The nineteenth century, from 1820 to 1890, influenced by Comte and by Darwin and his followers, was a period of skepticism, called at one time agnosticism. Impressed more and more by the progress of natural science, and particularly by the new information supplied by anthropology, this negative attitude gave way to a more affirmative one, based on positive science, suspicious of the animistic tradition, and cultivating an enthusiasm for social reform and progress. This is naturalism. But naturalists leave their own position logically incomplete, and they give no just account of "spiritual values." Naturalism when logically completed by epistemology and made adequate to the more intimate aspects of experience becomes idealism, in which the animistic tradition is renewed and given an interpretation diametrically opposed to that given by naturalism. The present-day issue in philosophy is between naturalism and idealism; in the discussion, naturalism has the advantage on matters of detail where science is in a position to supply relevant information, but idealism finds its opportunity and justification in comprehending life's best achievements and results. This, then, is the present situation: skepticism grown positive through a greater amount of information, and merged in naturalism; naturalism, preoccupied with the conditions and antecedents of living, impressive because of the achievements of science, but still too negative and self-restricted; idealism, speaking for the most significant values of life, and supplementing naturalism's catalogue of the given with a vision of the desired and the confidently believed.

Professor Kemp Smith has phrased a number of things so happily that I shall be justified in quoting his own words. "Skepticism must hold a high and worthy place in every history of philosophy by whomsoever written. It has been one of the main agencies of human advance. It is the enemy of fanaticism and false sentiment in every form. The mind to which it is utterly uncongenial can have no capacity for philosophy, and is little likely to have discrimination in regard to truth." But though valuable "as a regulating balance wheel," skepticism "can supply no engine power. When through the miscarriage of positive efforts at reconstruction error arises, or when beliefs and institutions, justified in their day and generation, outlive their usefulness and abuses accumulate, the skeptic is indeed in his element. But when his

destructive work is completed and the ground is cleared, he is left without occupation. He is a *specialist* in the subject of error, and when the community's stock of error gives out, he is faced by the specter of unemployment, condemned to idleness until a new crop has been grown."

Circumstances gave, however, a new lease to skepticism, and although seeming at first to support an agnostic philosophy they have in the end led away from it.

"At the period I refer to, say roughly from about 1820 onwards, the Romantic movement, passing from literature into scholarship and history, awakened a new interest in human life as lived under conditions different from our own, whether in the Far East, in classical or in primitive times, and so originated the historical study of civilization in all its manifold forms. This historical method obtained an added prestige from Darwin's application of it in the biological sciences; but it had already borne good fruit prior to the publication of the *Origin of Species*, and very soon thereafter was able to systematize its main results through the creation of the new science of anthropology.

"Now anthropology made possible for the first time an understanding of the beginnings in which human thinking takes its rise. It has shown that primitive thinking, among savage peoples in all parts of the earth, invariably bases itself upon a distinction between soul and body, and that it employs this distinction to account for all those phenomena which most attract its attention, especially the facts of disease and death. Animism, as is called—that is to say, the animistic distinction between a body and a soul supposed to be capable of leaving it in sleep and of surviving it in death—is the cradle of all human thought. It has made possible the first beginnings of religion, and has thereby yielded the necessary sanctions for the moral and social values embodied in custom and in tribal institutions.

"The conclusions to which the study of primitive thought thus led were mainly two-fold—that animism is false as a theory, and yet profoundly beneficial as an influence. It is false because the data upon which the distinction between soul and body is based have been wrongly interpreted. The asserted facts are either themselves fictitious, or, owing to primitive man's ignorance of the forces at work within and without him, have been misunderstood. Thus human thought is cradled not in ignorance, but in positive error and delusion. Its primitive beliefs rest upon foundations which, from a logical point of view, are grotesquely incapable of supporting the superstructure. These beliefs may be reestablished on other grounds, but certainly not on the evidence which originally led to their adoption."

But that, as the lecture points out, is only one side of the picture. Man did make progress. Animism, which was not arbitrarily invented but was a natural feature of primitive experience became socially institutionalized and religion became a social instrument. "The communities in which religion appears and takes root acquire all the advantages of unified action, and are therefore favored by the processes of natural selection. These services, however, [the naturalists say] are only temporary. Though they have proved indispensable in the earlier stage of man's development, they can not hope to maintain themselves under the altered conditions of a civilization that is scientifically organized."

Thus mythology has been justified over and over again by its social utility, an observation in harmony with the more crudely pragmatic interpretation of science. In so far, however, as the attitude of agnosticism persists, it is because the traditional distinction between reality and appearance is retained. If it can be retained, "then more must be made of it, and justification must be given for our preferential treatment of it. But in that case the agnosticism is undermined and the way is open for idealistic teaching. This is the line taken by those who employ it in support of religion. If, on the other hand—and this has been the more usual tendency of the school—the distinction between appearance and reality be allowed to be as relative and empirical as any other, agnosticism at once reveals its true affiliations. Agnosticism, in its usual and most influential forms, has really been naturalism in disguise."

Science has received a skeptical justification not unlike that granted to religion. "Even science, it was contended, is not a form of theoretical insight; it is merely a means to power. Science, rightly understood, never seeks to explain, but only to simplify. By scrupulously careful observation we verify the ultimate coexistences and sequences among our sensations, and under the guidance of elaborate hypotheses, which have a merely subjective value in directing inquiry, we define the coexistences and sequences in exact quantitative terms. Acquaintance with these relations, when thus precisely defined, enables us to predict the future, to construct machines, and so progressively to gain control over our physical environment; but they yield no insight, it is maintained, into the independently real. What is alone truly characteristic of science is not the obtaining of insight, but the acquisition of power. Thought is an instrument developed through natural processes for the practical purpose of adaptation. Its criteria and values are exclusively determined by the instinctive equipment of the species in its adjustment to environment. They have no independent validity

of any kind. The human mind, the argument proceeds, is limited to appearances; to attain knowledge in the absolute sense, that is to say through distinguishing between the true and the false, is impossible. There is a mechanism, or economy of human thought; but logic, so-called, is a science with pretensions as excessive and quite as unfounded as those of theology. The distinction between the true and the false claims to be an absolute one; and how can man, a merely natural existence, expect to have dealings with the absolute in any form?" What the history of philosophy reveals is not "a progressive discovery of truth, but a gradual emancipation from error," and agnosticism is for the naturalist "itself a compromise between science and animism." "The dualism between the phenomenal and the real, upon which agnosticism bases itself, is the last survival of those many dualisms which owe their origin to the primitive distinction between soul and body. With the total elimination of all dualistic distinctions, agnosticism likewise vanishes and we are then for the first time left with a thorough-going and completely consistent creed—the creed which is progressively strengthened by every advance in science, namely, naturalism."

But that is the negative side of naturalism. On its constructive side, "what distinguishes naturalism is its more sympathetic attitude towards animistic beliefs on their practical side. For as I have already suggested, naturalism has ceased to be exclusively interested in physical and cosmological problems. As a *philosophy*, it now rests its main hopes on the medical, psychological, and social sciences; and from the recent developments of these sciences it has, like idealism, learned many lessons, especially as regards the prominent part played in practical life by instinct and the emotions. It recognizes that in virtue of our instinctive equipment we have profound idealizing tendencies, and that one of our fundamental needs is that of devoting our energies to some end more enduring and wider than our own personal well-being. And it also recognizes—what is so abundantly evident in the light of history—that until a social movement takes on an emotional character, and indeed becomes a religious crusade that can regard itself as directed against the powers of darkness, it can never be genuinely popular and secure the adhesion of the masses of men. Accordingly naturalism has in recent times more and more expounded itself in the form of an enthusiastic, humanitarian, and indeed utopian creed, with an ethics emotionally charged by the harsher impulses of hatred and indignation as well as by the softer sentiments of love and pity." Naturalism has begun to formulate its own theory of ethics and to invade that domain of "spiritual interests" over which idealism

watches so carefully. It "has all the more seriously to be reckoned with that it is no longer exclusively intellectualistic in its interests and outlook, but endeavors to organize a type of civilization and of religion in harmony with itself, and can provide a programme that may guide us in the supreme and ultimate choices of our practical life."

And now I reach a passage that, frankly, I do not understand. Naturalism shows, Professor Kemp Smith tells us, in its most recent expositions, "an eagerness to come into line with the idealistic view that the logical criteria have absolute validity, that knowledge is really knowledge, that is to say a form of genuine insight, revealing to us the independent real." Does the writer have in mind American neo-realism, and its loyalty to the logic of Mr. Bertrand Russell? Some things in Mr. Russell's writings are not altogether clear, but on one point he is quite unambiguous, and that is that logical inferences, as such, have and can have no existential implications. However, neo-realism has two features which might lead the lecturer to identify it as naturalism; it was inspired by science and its polemic was chiefly against idealism. Or does he refer to remnants of subjectivism that are to be found in Professor Karl Pearson's *Grammar of Science*? In any case, whether they be pragmatists or not, naturalists do not admit that a logical demonstration is a merely temperamental series of convictions. The validity they claim for logic is, however, only a logical validity, that is, formal consistency, a technique of putting two and two together, and which remains a technique. But however that may be, this claim of "validity" for logical distinctions is, we are told, a claim that both naturalists and idealists agree in making, and here, with the resources of epistemology, the transition to idealism is made. "For why, it may be asked, should the conclusion that science is really science, revealing to us the independently real, be regarded by idealism as so vitally important, especially when what science teaches seems to place so many obstacles in the way of an idealistic philosophy, and seems indeed, if anything, to favor naturalism?"

"To these questions there is a two-fold reply. In the first place the supreme concern of idealism is to show that the æsthetic and spiritual values have a more than merely human significance; and there is apparently not the least hope of so doing if the values that hold in the intellectual domain can not be substantiated as possessing objective validity. If you will pardon the seeming truism, it is the very purpose of knowledge to know. If knowledge is itself a deception, and its conclusions are merely practical devices for temporary adaptation, forcing belief independently of demonstration,

there can be no hope of vindicating for the other values in life any superhuman significance. The genuineness of scientific knowledge must therefore be regarded as one of the main supporting pillars of an idealistic philosophy. Idealism can not afford to be obscurantist; it may legitimately in certain circumstances be skeptical as to whether or not a theory has been scientifically established; but should it attack science it will be undermining its own foundations.

“But there is also a second reason why idealism welcomes, as no small advance towards eventual agreement, the recognition by naturalism of the absolute validity of the logical criteria. If, as idealism maintains, intellectual and spiritual values stand on the same plane of objectivity, and therefore justify parity of treatment, half the battle is won when the human mind, its natural history notwithstanding, is allowed to be capable of transcending not only its subjective but even its planetary limitations. That the human mind should possess the power of comprehending its own natural origins, and of ranging in what we call thought over the entire material universe, of which, as an animal existence, it is so minor and transitory a product, is, in the view of idealism, a fact of such central and supreme significance, that agreement in regard to it, must, in consistency, bring other important consequences in its train. And this, indeed, is why the problem of knowledge—somewhat to the bewilderment of the outsider in philosophy—has always bulked so prominently in idealist systems. The *specific* results of the natural sciences, taken by themselves and so far as they go, may support naturalism no less than idealism, and perhaps on the whole can be regarded as favoring naturalism—I should myself be willing to make this admission—yet *the fact that science exists at all*, that the human mind has proved capable of acquiring it, *when taken with the other achievements of the human spirit*, in the arts, in the moral, social, and religious life, outweighs in philosophical significance, and sets in a very different perspective, the conclusions reached exclusively through study of man’s physical conditions.”

And idealism sees in animism not merely a trail of error more and more in contradiction with what we know. It asks to what extent have animistic beliefs stood the test of later experience? “And judging them by this criterion, idealism is prepared to maintain that, so far are the dualisms in which animism has issued from being the main source of error in philosophy, on the contrary only through repetition of the distinctions to which they direct our attention can human life be rightly understood. Primitive man’s distinction between the body and its ghostly duplicate is simply the first crude formulation of that later distinction between the physical and the psychical which in one form or another we are bound

to accept as fundamental." "Animism is indeed the cradle of human thought; and what most surprises upon study of it is not the extent and perversity of its false beliefs, but, allowing for its necessary limitations and defects, the extraordinarily sound appreciation which it displays for those distinctions which reach deepest and best stand the test of more developed experience."

As for the questions at issue between naturalism and idealism, "they are opposed on one fundamental conviction. According to naturalism, parts of the universe are more complex and are more completely unified than is the universe as a whole. Certain parts, too, possess higher qualities, such as life and consciousness, which are not to be found in the wider reality that includes them. That is to say, when we sample reality, parts are found to be superior to the whole. The Universe is, as it were, merely the stage, and is not itself a center of interest; what alone signify are the episodes that happen in this or that part of it.

"Idealism, on the other hand, is committed to the assertion that the Universe is at once richer and more highly unified than any of its parts. And as man is the most complex existence known to us, it is upon the clues supplied by our superficially human experience that idealism bases its ultimate conclusions. For though man can, indeed, be studied only in his natural setting, for an understanding of his nature and destiny idealism refers us to that wider reality which is depicted in poetry and the arts, and worshiped in religion, and which, though not yet scientifically known, can be philosophically discerned as conferring upon human life its standards and values.

"This main cleavage of opinion determines all the other differences between naturalism and idealism. Naturalism finds in matter, or at least in the non-conscious, the groundwork of reality; idealism finds in spiritual values the key to ultimate problems. Naturalism has to treat human values as merely relative; idealism interprets them as disclosing a richer and more comprehensive universe than can yet be defined in scientific terms."

And in conclusion the opposition is thus restated. "In the view of a naturalistic philosophy, man is a being whose capacities, even in their highest activities, are intelligible only as exercised *exclusively in subordination* to the specific requirements of his *terrestrial* environment. For the student of the humanities, on the other hand, man is adapted, indeed, to his environment, but measures himself against standards for which it can not account. He is not a piece of nature's mechanism, but himself a microcosm, prefiguring in his art, in his moral codes and social institutions, and in religion, the wider reality to which as a finite being he can have no

more direct method of approach. His true self-knowledge is made possible by values and standards that constitute his humanity in distinction from the animals; and it is by their absoluteness that they deliver him from the limitations of strictly animal existence."

II

I have tried in the above passages to give the writer's point of view and to illustrate the quality of his thought. One must remember the occasion and its amenities, the deference toward a distinguished predecessor. "It is well," the writer says, "when succeeding generations are bound together by respect and reverence." And, "The teacher of philosophy stands to his students in a relation of greater delicacy than does the teacher of any other subject in the University curriculum." Professor Pringle-Pattison always demanded, we are told by his successor, that every problem should be faced in all its difficulties, and we do not need Professor Kemp Smith's assurance to know that he aims to follow his predecessor's example in this respect. And since very crucial questions are suggested by various passages of the lecture I will ask them as simply as I can.

(A) No doubt skepticism or agnosticism was an anticipation of naturalism, but the advance from the negative to the more affirmative position was brought about by a great increase in scientific information. Scientific information, ever more abundant, does not as yet favor the idealistic interpretation, and does not seem likely to do so. The passage from naturalism to idealism is accomplished not so much with the help of science as in spite of it. It is accomplished by dialectic. Now what title has dialectic to vouch for a transition to something that is more than dialectical? The propositions of idealism, indicated on page 22 of the lecture, are not experiments merely in formal logic, they are surely statements of an existential sort. But one of the decisive achievements of contemporary philosophy is the recognition that logic is not an existential science. If that is so, assurances about existence must come from another source.

For I suppose we may assume that idealism will not appeal to the tender-minded pragmatism with which James scattered so many seeds of confusion; hopes and preferences will not be offered as evidences about the nature of the world. If then existential propositions are to be drawn neither from logic alone, nor from the heart, whence are they to be derived? Unless we admit authority or revelation no source seems to remain except the source that we constantly use, natural observation, with the help, if need be, of whatever technical aids we possess, and of inference tested by continued

observation and experiment. This, however, gives us the data and the method of naturalism, and the evidence thus gained is, as Professor Kemp Smith so candidly admits, not favorable to idealism.

And that, I suppose, is why idealism follows another and a more difficult path, that of a dialectical argument which begins with the presuppositions of epistemology. Those presuppositions may, of course, be correct; idealism may be right, but we have to consider here the evidence in the case and the methods we are at liberty to use. It is easy here to misunderstand and misrepresent. But the premise of the idealist's dialectic, if I understand, depends upon a certain conception of knowledge which is valued for that very subjectivism which naturalism is commended for repudiating. Knowledge to be knowledge must give us the independently real and the really independent. "Naturalism, that is to say, can not explain the fact of knowledge and the employment of logical criteria, save by allowing to the mind the power of transcending its subjective limitations and of apprehending from subjectively conditioned data, by means of subjective processes, an objective meaning" (p. 27). It may of course be so; but this way of conceiving the situation is less characteristic of philosophy to-day than it used to be. The fact that the point of view exists has its historical explanation, and the impression is abroad that this epistemological point of view is retained in the interest of epistemology.

(B) Idealism insists that science be accepted as revealing to us "the independently real" (p. 18). Should idealism attack science it will undermine its own foundations (p. 19). This is because "the supreme concern of idealism is to show that the æsthetic and spiritual values have a more than merely human significance; and there is not the least hope of so doing if the values that hold in the intellectual domain can not be substantiated as possessing objective validity" (p. 18). "If knowledge is itself a deception, and its conclusions are merely practical devices for temporary adaptation, forcing belief independently of demonstration, there can be no hope of vindicating for the other values in life any superhuman significance" (p. 18). For "it is the very purpose of knowledge to know." That is certainly candid enough, and it sounds like the doctrine that conclusions are justified by their desirable results. But could science help idealism in its supreme concern without the resources of epistemology? Perhaps the idealist would disclaim responsibility for what he claims to find implicit in the physiology of perception, something for which science is responsible. Here is, of course, an opportunity for discussion without end for those who like that kind of discussion. The problem envisaged was never solved, except in the one way that such a problem can be solved,

which is to show that the conditions of the problem itself make the solution that is looked for unobtainable. And this is, though it sounds paradoxical, a logical solution. For the question is, what is the dialectical sum of the conditions assumed? And a candid inspection may show that there is no sum, or, what comes to the same thing, that the sum is indefinitely ambiguous. It is as though one were to ask whether the square root of a quantity were itself a plus or a minus quantity. By what right then does any one assure us that we are cut off from "reality" by a screen of sense-impressions? Of course we may be; so much is admitted. The "physiological argument," once used so confidently, argued nothing, however, except its own inconclusiveness, and of course all its data are naturalistic data. Is it not a little as though some one were to complain of being deaf because he could not hear the music of the spheres, and of being blind because the Beautiful and the Good appear in such a fragmentary way? And after all, suppose the realist to be right, and as Professor Kemp Smith excellently puts it "the distinctions between appearance and reality be allowed to be as relative and empirical as any other" (p. 15), and that the world, in spite of metaphysics, is the sort of thing it appears to be—how would that situation differ, so far as any one can see, from what the normal experience of every one now presents? And if it would not differ at all, what evidence is there that the world is not as it appears? There is, to be sure, no proof that it is so, neither is there any proof that it is not. And it is of the essence of the problem, as formulated by both idealists and agnostics, that it can not be solved except in the manner above indicated. If then we retain the problem by retaining its presuppositions, we seem to return to the agnostic position.

And one other consideration: if we claim that men's nobler sentiments and works gives us a cue to "reality," by what right do we select thus optimistically? Take this sentence for example: "For though man can, indeed, be studied only in his natural setting, for an understanding of his nature and destiny idealism refers us to that wider reality which is depicted in poetry and the arts, and worshiped in religion . . ." (p. 22). If reality is all of a piece, or if the course of events be divinely guided, we have no right to choose one fact rather than another to serve as a clue. The adventure of Germany with its dire consequences is, for aught we can tell, as revealing as anything else. We should remember the wisdom of Parmenides when he cautioned Socrates against the pragmatism of the heart.

But with regard to the last quotation above, the naturalist may agree, in a sense, but it would not be, I think, the sense of idealism.

For that domain to which we are referred by poetry and the arts is a very important part of man's empirical world, improved by his industry for his purposes, enriched for himself and for his children, and enlarged in his imagination for bettering his natural present and future.

(C) And as to science as something that man has achieved in spite of his "animal nature." Is not the impression justified that the term "animal nature" is used too loosely or too rigidly? Whatever nature is concerned has all the capacity that stands revealed. But let me quote, for its excellent precision, the following passage: "*Yet the fact that science exists at all, that the human mind has proved capable of acquiring it, when taken with the other achievements of the human spirit, in the arts, in the moral, social and religious life, outweighs in philosophical significance, and sets in a very different perspective, the conclusions reached exclusively through study of man's physical conditions*" (p. 19). Again the naturalist must agree, but he will not, in doing so, agree with the idealist to the latter's satisfaction. And the comment here may be somewhat like the preceding one.

When we stand amazed at the distance man has come since the first stone age, we should feel tempted to follow the story of his progress. Surely no story is more interesting. Man has achieved his science and his arts laboriously and bit by bit. The progress he has made seems, to be sure, extraordinary when we imagine a modern architect or engineer beside a savage, but it may be because of our ignorance now that it seems so. Moreover, it seems, according to the idealists, to incline us to error. And if one could follow that progress bit by bit, and step by step, every advance would, we may presume, be quite intelligible under the circumstances,—not in terms of physics and mechanics but in terms of human knowledge and imagination. The natives of Australia are quite as real as any one else, and some day the natural conditions of our planet may condition a miserable existence for mankind, without much in the way of art or spiritual values, conditions brought about perhaps, by man's stupidity and improvidence. Who can tell?

(D) And for understanding the history of philosophy few aids are more important than the story of man's earlier conditions. Animism says Professor Kemp Smith, "is indeed the cradle of human thought." I should prefer to call it the cradle of metaphysics, but be that as it may, it has provided a tradition that continues in an attenuated form down to the present time. For I suppose no one will claim that it has to-day the vigor and social importance that are testified to by the gothic cathedrals, the ancient temples and the religious practises of primitive people. That

animism has provided the subjects and much of the inspiration of glorious art I should be the first to insist. Man's "spiritual" concerns were phrased for so long in that vocabulary, its terms early acquired such a power to stir the emotions, that it is not surprising that the philosophy which takes for its especial theme man's "spiritual" life has usually been animistic. For after all, we need not always use the speech of a laboratory. We can say many things in a language of the imagination. Metaphors, if well chosen, are understood.

The relation of idealism to animism is, as the lecture points out, very intimate and cordial. And it provides, I think, the real basis of the opposition between idealism and naturalism; for the opposition becomes determined and self-conscious on the side of naturalism in proportion as the latter formulates its theory of ethics. The opposition is not between an interest in the lower and a concern for the higher, but between two different ways of championing the higher. The whole issue becomes clearer if we contrast naturalism with what seems to be the essence of idealism when existentially presented, namely, supernaturalism. Now this, as a metaphysical tradition, more or less incorporated in institutions, is obviously a survival or a development, whichever you please, from very primitive culture. "These beliefs may be," we are told, "reestablished on other grounds, but certainly not on the evidence which originally led to their adoption" (p. 12). And I will interpret this as meaning "scientifically" reestablished. But on what grounds could they be, as we understand science to-day, thus reestablished? Not, I suppose by authority or tradition, nor by a tender-minded pragmatism, nor by dialectic, if formal arguments, as such, are seen to bring no reports about existence. Is it then, by virtue of man's normal powers of observation and the natural science he has so superbly wrought that animism shall be reestablished? This is, however, the only way in which existential hypotheses can be substantiated, but it is the way of naturalism, and one is not likely by taking it, to arrive at supernaturalism. Idealists remind us, properly enough, of how incomplete our knowledge is—so incomplete that though what science we have favors naturalism, we are, after all, so ignorant that no one need be discouraged. But why may not this uncertainty cheer the naturalist also?

(E) "If man is the most highly organized form of existence known to us, and therefore the most contingently conditioned, and therefore also, as naturalism is constrained to argue, the most provincial, how comes it that he can pass judgments that have universal validity?" (p. 28).

One good definition of inference is the application of a rule to

particular instances. We do of course pass judgments that claim universal validity; they are either descriptions of natural regularities observed and remembered, or rules of procedure. In the former case the form of universality is a convenient simplification which ignores deliberately or unconsciously the possibility that more knowledge would modify our description, ignores, that is, for purposes of economy, the ignorance that idealists frequently remind us of; in the latter case, in which alone the form of universality is philosophically justified, we come back to the consideration that strict as opposed to provisional universality is a dialectical property, technical in character and importance. This does not mean that the laws of physics are illusions; it means only that physics is a very technical science, and that the formulations of its laws are technical formulations. I am, unfortunately, not acquainted with any good analysis of this point, and my statement of it is consequently very far from satisfactory. But, for purposes of analysis, we can distinguish between subject matter and technique, between data and method, between, though here the distinction is itself perhaps only technical, the type of science that gives us the subject matter or enlarges it (and I mean an existential subject matter such as biology), and the type of science that gives us technique, such as logic and mathematics. We can distinguish, experimentally at least, between the existential sciences that enlarge a subject matter of observation, and the non-existential sciences that provide us with technique to be used in the former, and to be played with, very seriously of course, by making the principles of technique their own subject matter.

Now how could there be such a thing as technique or method, or any distinction between a right and a wrong way of procedure, if nature did not show a high degree of regularity in the relation of what we call physical causes to physical effects. How could an architect proceed with any confidence, or a surgeon handle a case "scientifically;" how could that advance of science, which encourages the idealist to question the conclusions it favors, ever take place if nature did not behave on one occasion as she has been seen to behave on another? How could anybody, idealist or naturalist, befriend art, science, and man's spirit with any wisdom if he could not find out how to go about it? The practise of intelligence requires at least so much physical regularity, that general rules can be applied to particular cases. That the rule will work this time as it has in the past is a methodological assumption, never a metaphysical discovery in advance of the fact. And what is true for the practise of intelligence is no less true for the practise of virtue. "How comes it that he can pass judgments that have universal

validity?" It would seem that he can do so because physical nature obliges him to if he would prosper under the conditions which are offered him. And the judgments which are strictly universal in the logical sense are technical and not existential judgments. There is no mystery until we attempt to urge conclusions that go beyond the evidence, and which the evidence thus far available does not even suggest, but which a tradition which took its rise in primitive culture sufficiently explains.

(F) According to Professor Kemp Smith the idealist bases his claim to serious consideration on the fact that his particular concern is to cultivate and help others to cultivate those higher regions of experience in which human nature finds its ripe fruition. What are these best fruits of life as the idealist understands them? I may not be wrong in suggesting art, poetry, society, personality, science perhaps. Now how is art produced and strengthened? How is it stimulated and helped? By teaching a vision of "Reality"? Perhaps. The best art, has, however, been always the art that was most honest and knew most intimately the world it lived in. And who are the ones that really help society? All sorts of people help society and in all sorts of ways, and teachers of idealism share in the work; but I suspect it is not so much their doctrine as the personal quality, influence and example of the men that count. It will not do to confine poetry, but on the whole it is safe to say that the poet needs to know not metaphysics but life. Heaven and the animistic earth were long his universe of discourse. They can seldom be so now, since life is not described that way. Surely science and its technical applications in the arts do not need the supernatural. Personality is a subtle thing but it is to be sought in what breeds character, *im Strom der Welt*.

Does idealism's place in the world depend upon an obligation to prove that "the æsthetic and spiritual values have a more than merely human significance" (p. 18)? But why say that what is human is "merely human," or that it can not be safely and richly human unless it be shown to be superhuman also? Here is perhaps the crucial question.

Every reader of philosophy will recognize the approach to the City of God whither the road in the lecture leads. It is his citizenship in that *polis* that confers on man, idealism holds, his intrinsic excellence. The idealist feels that somehow our highest values are compromised and threatened to turn into amiable illusions if they are altogether natural and human. Loyalty to them demands, therefore, that he vindicate their "superhuman significance."

Idealism is, indeed, loyal to those highest things, whose reality in some fashion no thoughtful friend of man can wish to question.

And we need not deny, surely, man's right to aspire to something that one might call "the City of God." But the language with which to praise spiritual values is one thing, while the ideas with which to foster them are another. Results not yet achieved but ardently desired, ideals which the world exemplifies in but slight and sorry fashion but to which men and women may devote their lives, visions of perfection that man might, conceivably, with enough good-will and sacrifice and patient science, realize approximately in his physical dwelling place, these things are in and of the imagination, and an imaginative language full of associations conveys best our response to them of loyalty and communicates the emotions they evoke. Such language is gratifying and artistic, but is it scientific? When, however, something is to be done, we have to fall back upon the resources of cause and effect that nature provides us with. Art and science, friendship, personality and love can be really fostered only by improving the conditions they depend upon. These conditions are not merely material in the grosser sense—they include culture and education as well as shelter, clothing and food. As an example one may cite the "social psychology" which friends of the spiritual values are trying to secure. If they succeed they present the friends of morality and art with the kind of knowledge that the world sadly needs. If any one is happier and better for believing that values are superhuman, he is surely welcome to his faith, but whenever he seeks to really promote a cause in the world, he must adapt his method to what the empirical facts happen to be. This is, perhaps, a pity, but it is a situation that the naturalist has learned to accept.

I have not asked my questions as simply and as briefly as I intended to, but perhaps I can ask them now.

(A) Must we not recognize that logic is a purely formal and technical science, and therefore not adapted to decide existential problems? And if so, must we not admit that such problems have to be decided by the evidence of empirical observation?

(B) Must we not give up that conception of knowledge which assumes for it a more than empirical certainty, and formulate a new conception obtained by describing familiar cases of knowledge grounded on evidence, such as biology, chemistry, history? Must we not, in a word, begin to use an empirical epistemology. In America, as Professor Kemp Smith is well aware, an important beginning has been made.

(C) Are we not deceiving ourselves when we dwell upon man's "animal nature," with the result that human progress and civilization becomes inexplicable on natural grounds? Is that idea a remnant, perhaps, of Kantian austerity?

(D) In view of the relation which the nature of logic and the

importance of empirical evidence bear to the whole discussion, must we not accept the naturalistic account of the animistic tradition? This does not mean that we scoff at the gods of Greece, or at the art of the Middle Ages, or at the logic of Hegel. It does not mean that we regret the animistic tradition in history. It means only that we recognize a tradition where there is one, and, on a question of fact (not to be confused with a question of value), we make our decision on the basis of the evidence we have. The naturalist does not regard these decisions as necessarily final, finality being a dialectical virtue.

(E) Is it not clear that what makes successful inference possible in the extra-academic life is the regularity of nature and of organized human affairs? One whose experience did not teach him to infer would not survive long in the physical world that we know. And is not logic thus accounted for without mystery, and man's incorrigible habit of generalization, as well as his admirable skill in passing universal judgments?

(F) And finally, what reason is there except an attachment to what is imaginative and poetic, for supposing that spiritual values are in any wise lacking in human worth if they are "merely human"?

III

I began by saying that in this discussion it might be well to seek a new orientation, and the lecture itself by its classification of philosophical attitudes as skepticism, naturalism and idealism suggests what this might be. Instead of this historical classification suppose we speak of criticism, knowledge and purpose. What Professor Kemp Smith says of skepticism is just and sufficient, and will answer as an appreciation of the function of criticism. The civilization that man has built up is partly a function of his social experience and traditions, but it is largely a function of his slowly acquired science. In any case, if ideals are to be translated into purposes, success depends not only on the necessary goodwill, but on the necessary knowledge. The discontinuity between science and human interests is entirely accidental, owing largely to the inevitable specialization in any world where much progress has been made. People differ, of course, in temperament and capacity, and academic likes and dislikes get translated sometimes into theoretic harmonies and discords. But if the idealist is beginning to find, as he surely ought to, in the naturalist as loyal a servant as himself of higher things, and if the naturalist can understand the symbolism of the supernaturalist, a new beginning has been made. Ideals are helpless without the knowledge that science alone can offer, and science undevoted to ideals is a technical or an academic specialization. The

just conception of naturalism is therefore far more generous than the one idealists seem to entertain. Naturalism completed and thought out does not turn into animistic idealism, but it does develop into an empirical idealism in which the word idealism recovers its popular meaning and signifies a whole-souled response to humanity's needs and opportunities.

Such an empirical idealism is, it seems to the reviewer, what philosophy is on the way to becoming, and this should give us the orientation that many students of it must long have wished for. Old ideas, as expressive of an honest moral faith, and held as precious by so many men and women of fine culture, are not to be treated as merely speculative error; but they must be re-identified as genuinely imaginative. The field of expression we need to recognize is the one called poetry, and to identify idealism as poetry is by no means to reject its essential faith and its analysis of what is called in the lecture "the intimate aspect of experience." Idealism's faith in art and poetry as a serious and important expression of the human spirit is referred to in the lecture, and this faith is natural to those who are at home in a similar atmosphere and who are interested, ultimately, not in facts but in values, if the antithesis may be allowed. If idealism is esteemed for its implications, so is poetry valued for the sensitive wisdom which men and women that know those "intimate aspects of experience" have so often used it to reveal. The identity is an identity of function. Supernaturalism can not be any longer justified as knowledge, but it may be justified as poetry if used with enlightened sincerity. For as the lecturer justly says (p.19), "idealism can not afford to be obscurantist."

This transition from supernaturalism to "ethically idealistic" naturalism, from animistic "idealism" to empirical idealism, is I believe, going on in philosophy at the present time.

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ROUSSEAU AND CONSCIENCE

MY volume *Rousseau and Romanticism* evidently strikes Professor Schinz as a violent diatribe rather than as a sober critique. Curiously enough his review¹ affects me in very much the same way. He seems to me to make an almost bewildering variety of misleading statements either about my point of view or that of Rousseau—varied by an occasional misstatement. As an example of the latter one may take his assertion that I abuse Rousseau and the Rousseauists "because they express regret at not

¹ See this JOURNAL, Vol. XVII., No. 1, January 1, 1920.

having conquered their passions." The true charge that I bring against them is that they take as a badge of spiritual superiority the sheer intensity of their emotional and imaginative unrestraint.

As an example of a misleading statement one may take the passage about Rousseau and *Kultur*. If one had no other source of information than Professor Schinz's review one might gather that I ascribe to Rousseau this influence upon the Germans purely from personal bias and eccentricity. This influence is, on the contrary, one of the best established facts of literary history. The Germans themselves, to do them justice, so far from denying this influence, are even inclined to overstate it. For example, Professor Paul Hensel says in his *Rousseau* (1907), that (compared with his influence in Germany) "Rousseau's influence in France seems almost trifling." In Germany "Rousseau became the basis not of a guilotine but of a new culture [*Kultur*]."

Professor Schinz does not make sufficiently clear that I have not attempted in my volume rounded estimates of individuals, not even of Rousseau; and that I have not attacked romanticism in general, but only one of three main types of romanticism that I am careful to distinguish—a type that is practically identical with emotional naturalism or sentimentalism; and finally that I am attacking primarily even this type only in its ethical pretensions. Here the crucial point is the treatment of conscience by the emotional naturalists. The corruption of conscience, as I say, underlies all other modern corruptions; so that everything finally converges upon this point. One may judge from the trustworthiness of Professor Schinz's report on this matter as to the general soundness of his review. Commenting on my statement that "Rousseau transforms conscience itself from an inner check to an expansive emotion," he says that this "*of course* is not true *at all*" (my italics). For any one who has read the eighteenth century sentimentalists (and Rousseau is by general consent the arch-sentimentalist) the "of course" and the "at all" are simply staggering. All students of the period were, I had supposed, agreed that Rousseau and the sentimentalists conceived that they had only to "let their feelings run in soft luxurious flow" and the result would be "virtue." Rousseau, says that perspicacious moralist Joubert, changed virtue from a bridle into a spur. Virtue becomes a passion, differing from other passions, not in kind, but only in degree.² Evidence on this point, were it worth while, could be piled up mountains high. The tendency of course did not originate with Rousseau. In his

² Cf. *Nouvelle Héloïse*, 4^e partie, lettre XII., passage beginning: "L'on ne triomphe des passions qu'en les opposant l'une à l'autre. Quand celle de la vertu vient à s'élever," etc.

work *Is Conscience an Emotion?* (1914), Hastings Rashdall has pointed out the influence here of Shaftesbury, Hutcheson and the English deists.

Some traces of the older dualistic morality are indeed to be found in Rousseau;³ but this is a minor trend in Rousseau himself and is practically negligible in his influence, with which alone I am concerned in my volume. Is Professor Schinz naïve enough to suppose that because Rousseau uses the word "virtue" forty-three times in his first *Discourse* what he opposes to the luxurious degeneracy of his contemporaries is a genuine Roman virtue or a true Calvinistic conscience? "Rousseau," says Joubert again, "took wisdom from men's souls by talking to them about virtue." Rousseau's conception of virtue is neither Roman nor Calvinistic but primitivistic—a return to "nature" and the simple life. When we turn to the second *Discourse* to find out what is meant by "nature" we discover that Rousseau's nature is nothing real but only an Arcadian dream. We come here to the true sources of Rousseau's power. He is highly imaginative but along idyllic lines. He throws the glamour of this type of imagination over expansive impulse. Get rid of traditional restraints, he says in substance, (they are only artificial and conventional), and what will result will be a golden age of pure "liberty." English readers are familiar with this conception of "liberty" in Shelley's *Prometheus Unbound* and also in the mouthings of our latest anarchists.

Moral excellence for Rousseau is not the result of a difficult struggle but, if one is only a "beautiful soul," that is, if one has remained a child of nature in the midst of social perversions, one has, in order to be at the same time good and beautiful, merely to follow one's spontaneous temperamental leaning. Thus Julie "*n'eut jamais d'autre règle que son cœur, et n'en saurait avoir de plus sûre; elle s'y livre sans scrupule, et, pour bien faire, elle fait tout ce qu'il demande.*"⁴ Professor Schinz indulges in a reckless abuse of language when he associates with Calvinism and Puritanism the idyllic pictures in the latter part of the *Nouvelle Héloïse*, presided over by this "beautiful soul" whose very death-bed is esthetic and without a single qualm as to her future state. It is

³ The most dualistic passage I can discover in Rousseau is found in the *Profession de foi du Vicaire Savoyard*: "*Non, l'homme n'est point un: je veux et je ne veux pas, je me sens à la fois esclave et libre; je vois le bien, je l'aime et je fais le mal,*" etc.

⁴ *Nouvelle Héloïse*, 5^e partie, lettre II. Cf. also *ibid.*: "*Julie était faite pour connaître et goûter tous les plaisirs, et longtemps elle n'aima si chèrement la vertu même que comme la plus douce des voluptés.*" Of Julie's "affinity," Saint-Preux, Rousseau writes approvingly that, contrary to the accepted view, "*il fait de la conscience morale un sentiment, et non pas un jugement.*"

a "common thing," says Jonathan Edwards describing the true effect of Calvinism, "that persons have had such a sense of their own sinfulness that they have thought themselves to be the worst of all, and that none ever was so vile as they." Rousseau on the contrary looked on himself as the best of men, and tends to inspire a similar spiritual complacency in others.

One point of the utmost importance must be kept in mind if one is to understand the influence of Rousseau. It is implied in his own saying that "his heart and head do not seem to belong to the same individual," and this sentence is to be read in the light of what he says very truly elsewhere, that "cold reason has never done anything illustrious." The side of Rousseau that proceeds from his "head," often very shrewd and even wise, is negligible in the kind of study I have attempted because it has had little effect on other men. It is the imaginative and passionate side of Rousseau, his "heart," which has moved the world. Rousseau's "reason" indeed is not always "cold." We often find in his writings logic in the service of the emotions and moving towards some Utopia conjured up by the Arcadian imagination. Rousseau's "head" would have disapproved of the Revolution which his "heart" (often with his logic as its accomplice) did so much to prepare. I accept M. Lanson's contrast between the two Rousseaus, except that I am not inclined, as he seems to be, to accuse Rousseau of moral cowardice. "The writer," he says, "is a poor dreamy creature who approaches action only with alarm, and with every manner of precaution, and who understands the applications of his boldest doctrines in a way to reassure conservatives and satisfy opportunists. But the work for its part detaches itself from the author, lives its independent life, and, heavily charged with revolutionary explosives which neutralize the moderate and conciliatory elements Rousseau has put into it for his own satisfaction, it exasperates and inspires revolt and fires enthusiasms and irritates hatreds; it is the mother of violence, the source of all that is uncompromising, it launches the simple souls who give themselves up to its strange virtue upon the desperate quest of the absolute, an absolute to be realized now by anarchy and now by social despotism." If I deny the Rousseauistic conception of conscience and morality, it is precisely because it leads in practise to these violent and impossible extremes. Because of this denial Professor Schinz says I am guilty of a fanaticism worse than "Mohammedism," Prussianism, Bolshevism, and the Inquisition all rolled into one! To be able to push one's emotional fervor to such a pitch even in the cool atmosphere of a *Journal of Scientific Methods* would seem to illustrate the very tendency under

discussion. Professor Schinz is filled with what Jean-Jacques calls "the indignation of virtue."

On the negative side my conclusions are, as a matter of fact, very similar to those of Dr. Rashdall. "The emotionalist theory of ethics," he says, "however little intended to have that result by its supporters is fatal to the deepest spiritual convictions and to the highest spiritual aspirations of the human race." The difficulty begins when one seeks a substitute for emotionalist ethics. It is hard to see that Rashdall, like Kant himself, gets beyond rationalism. As against a rationalistic foundation for ethics the saying of Rousseau holds good that "cold reason has never done anything illustrious." In these final orientations of the human spirit it is necessary to fight fire with fire. The fact is that what is opposed to man's natural will and ordinary impulsive self is not mere "reason" or "judgment" but another type of will, an ethical will, as one may say, that is felt in its relation to the expansive desires as a power of direction and control. The ethical reality or standard or "oneness," with reference to which control is exercised, man can not, I have tried to show, get at directly, but only with the aid of "fiction" or "illusion" or "imagination." Here, in intention at least, is the constructive side of my volume. I seek to develop the contrast between the idyllic or Arcadian imagination of a Rousseau and the ethical, or, as Burke terms it, the moral imagination that one finds in the true sages. This latter type of imaginative "vision" leads to entirely different fruits in action, the only thing that finally matters. The ethical will needs the support of the imagination, if it is to prevail against the natural will. Holding as it does the balance of power between the two conflicting "wills," the imagination may, as I say, be regarded as the universal key to human nature ("Imagination," in Napoleon's phrase, "governs the world"). If one is therefore to treat in a modern, that is, in a positive and critical fashion, the ethical problem, one must deal adequately with the rôle of the imagination. This the founder of the critical philosophy does not seem to me to have done either in the *Critique of Judgment* or elsewhere. There is surely something better to do in the ethical field than to oscillate between rationalism and emotionalism, between the mechanistic nightmare and the romantic dream. The Rousseauist would substitute a facile expansiveness for the Pauline conflict between a law of the spirit and a law of the members and at the same time would enjoy the fruits—for example, peace and brotherhood—that can come only from accepting this conflict and carrying it through. One may sympathize in a way with this particular form of the desire to have one's cake and eat it too, especially when one considers the flattery of human

nature that romantic morality implies with reference to the Calvinistic theology from which it is a recoil; yet it would seem urgent at present to dissipate this sham spirituality, the more dangerous because the less obvious aspect of our present materialism, and to re-establish, if possible, on a thoroughly positive and critical basis the checks and inhibitions of true conscience. Rousseau has so far transcended in his influence the mere man of letters as to challenge comparison with the founders of religions. This comparison I have accordingly made. If it leads me to express a preference for Jesus and Buddha, a preference that seems to inspire in Professor Schinz a certain chagrin, the reason is that these teachers did not seek like Rousseau and the Rousseauists to found the religious virtues on the ruin of the inner life.

IRVING BABBITT.

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REVIEWS AND ABSTRACTS OF LITERATURE

Métaphysique et Psychologie. THÉODORE FLOURNOY. Deuxième édition. Paris: Fischbacher. 1919. Pp. xvi + 195.

A second edition of this important work was a long-felt need. When the book appeared for the first time in 1890, it was at once recognized as one of the leading studies in the field of experimental psychology. The author, who was at the same time a physician and a philosopher, had mastered once for all the relations which are bound to exist between experimental psychology and metaphysics. Since then, numerous volumes have increased M. Flournoy's reputation and made him a leading authority on the subject. But his first work is still one of his best productions; and this new edition, preceded by a preface of Harald Höffding, is a faithful reproduction of the first.

As a foundation of the science of psychology, the author proposes the well-known law of parallelism between the mental states and the bodily conditions. Inspired by the same principles which the pragmatists have since made popular, he regards this law as a working principle, as a hypothesis whose function is simply to guide us in our researches. It may be held in connection with any metaphysical theory; and, if we try to investigate its essence, we will see that it is nothing but a confession of ignorance. The relations between mind and body are as mysterious to-day as they were at the dawn of human thought; and all philosophical systems intended to explain them have been a decided failure.

The author examines in a brief, but thorough, manner, the most

important of these systems: materialism, idealism, spiritualism and monism, and points out the fact that they have not helped us in any way towards the knowledge of reality.

A nearer approach to ultimate truth is, according to our author, the theory which holds, with the author of the *Critique of Practical Reason*, that the moral law furnishes us an insight into reality itself, which science merely shapes according to human categories. And here again, the author agrees to a certain extent with our modern pragmatists, who teach us that the categories of science have been shaped by man for practical purposes, and that there is a reality deeper than what our intellect can reach.

M. Flournoy's work is one of the best contributions to the subject of the relations between experimental psychology and metaphysics. It ought not to be overlooked by any student of philosophy.

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Towards Racial Health. NORAH H. MARCH. New York: Dutton & Company. 1919. Pp. 318.

This handbook on the training of boys and girls for parents, teachers and social workers, written nearly five years ago in the British Isles, is now printed in the United States. Dr. J. Arthur Thompson, professor of natural history, writes a foreword and the American edition has an introduction by Dr. Evangeline W. Young, of Boston. Parents, teachers and social workers will be assisted by Miss March's work, in giving sex education to the young who come under their care. The book is for such teachers and not a text for boys and girls. Miss March emphasizes the biological aspect of her subject. Some of the chapter headings are misleading as to their contents. After reading chapters entitled "Mental Development" and "Supervision—Psychological Aspect," the reviewer wishes Miss March had either omitted such titles for chapters or collaborated with a psychologist when writing them. In the discussion on "Mental Development" one finds the statement, "We must remember that, fundamentally, men and women are biologically and consequently psychologically different organisms" (p. 31). The reviewer wonders what Miss March means to imply by "psychologically different organisms." Proof for the statement in place of "consequently" would be more convincing.

Chapters VI. and VII. (67 pages) are devoted to Nature Study and Biology of Sex. Chapter IX has the misleading title "Education for Parenthood" but it contains an array of information from the works of Karl Pearson, Tredgold, and others.

Sixty-four pages include Appendix I. (Some Suggestions for Parents on How to Answer Childish Questions and How to Prepare Children for Puberal Changes), Appendix II. (Special Hygiene for Girls), Appendix III. (Physiology of Human Reproduction), Appendix IV. (Care of Animals—and Some Notes on Plant Life referred to in the Text). A bibliography for each chapter is appended. Most of the books mentioned are those published in England.

The American edition should prove helpful to many who have not seen the book. What Miss March has done is well done—her chapters are poorly named, however. The American edition would be improved if statistics from American institutions and organizations were added.

EDITH MULHALL ACHILLES.

NEW YORK CITY.

JOURNALS AND NEW BOOKS

REVUE DE MÉTAPHYSIQUE ET DE MORALE. September-October, 1919. *Les Facteurs kantienens de la Philosophie allemande du commencement du XIX siècle* (pp. 569–593. *A suivre*): V. DELBOS.—Kant's critique does not merely justify Leibnizian doctrines in a new way, but also suggests a new metaphysical theory. His successors at the opening of the nineteenth century began to develop this new system by discussing the consistency of Kant's position as to the *ding an sich* with the rest of his critique. The article describes the essential points raised in this discussion by Jacobi, Reinhold, Schulze, Maimon, Beck, and Fichte. *Les erreurs systématiques de l'intuition* (pp. 595–616): L. ROUGIER—Contemporary mathematical analysis discloses the many errors and illusions which have crept into metaphysics because of our naïve reliance upon "spatial intuition" or "geometrical empiricism" in interpreting the cosmos. As examples of such error M. Rougier discusses the belief in the infinite continuity of space, in an infinite void, in absolute movement, in absolute size, form, and direction. The errors of "spatial intuition" are classified according to their sources into two main groups: (1) errors due to the inaccuracy of our senses, as described in Weber's laws of "the just perceptible increment of stimulation;" (2) errors due to the egocentrism of our senses in referring all things to the human body as a standard of measurement. *L'attitude religieuse des Jésuites et les sources du pari de Pascal* (pp. 617–647. *Suite et fin*): L. BLANCHET.—Pascal opposed as a Jansenist to the rationalistic naturalism of Jesuit apologetics, nevertheless develops his famous wager along lines sug-

gested in the works of Jesuit writers like Arnobe, Sebond, Silhon, and especially Père Sirmond. For the Jesuits, however, external conformity to Christian conventions is a minimum religious life to which reason can lead the unbeliever. For Pascal, on the other hand, external conformity is all that reason can ever produce in the natural man. When by considering the infinite advantages of belief (as developed in the wager) an unbeliever is brought into outward conformity to Christian conventions, only the grace of God can pour into his heart a saving faith. *Études Critiques. Les Principes de l'Analyse mathématique par Pierre Boutroux* (pp. 649-667): M. WINTER. — In his *Principles of Mathematical Analysis* M. Boutroux attempts a systematic account of the concepts of mathematical science, which will be intelligible to initiates in the philosophy of mathematics. M. Winter gives a sympathetic and ample description of the book. *Questions Pratiques. Citoyen ou Producteur?* (pp. 669-684): M. LEROY. — The French Revolution brought as the ideal of our age, the "free citizen." But this ideal has a rich social significance only in contrast to the preceding age of political absolutism. To-day the "free citizen" with his vote is a colorless figure. But a new ideal of to-morrow is developing, that of the *producteur*, the free worker, or perhaps we should say the free artist.

Hoernlé, R. F. Alfred. *Studies in Contemporary Metaphysics.*

New York: Harcourt, Brace and Howe. 1920. Pp. viii + 306.

Penido, M. T.-L. *La Méthode intuitive de M. Bergson.* Paris:

Félix Alcan. 1918. Pp. 220. 3.50 fr. (majoration temporaire 30%).

Richardson, C. A. *Spiritual Pluralism and Recent Philosophy.*

Cambridge, Eng.: The University Press. New York: Putnam's. 1919. Pp. xxi + 335. 14/—. \$4.50.

NOTES AND NEWS

A REMARKABLE collection of early editions of philosophical books recently formed by the Division of Philosophy at Harvard has been put on exhibition in the Treasure Room of the Widener Library.

The collection consists partly of books which already belong to the College Library or to the Robbins Library of Philosophy, but mainly of a very valuable gift of first editions, manuscripts, and autographed letters, which has recently been presented by Professor George Herbert Palmer.

In the collection are to be seen lecture notes by Fichte, in his own hand; a letter of Descartes, written in December, 1647, reporting his correspondence with Pascal and saying that he had suggested carrying a barometer to a great height in order to test the weight of the atmosphere; and several manuscripts of John Stuart Mill.

The Mill manuscripts include a review of Grote's *Aristotle* and portions of his Inaugural Address at St. Andrews, of his speech on the Enlargement of the Franchise, and several unpublished notes. They illustrate his elaborate methods of work, showing corrections and changes in nearly every sentence and often differing widely from the final printed form.

Leibniz's first book is on exhibition, with an autograph letter addressed to a friend, M. Schmidt, dated Hanover, 7 April, 1702. He closes by saying, "This minute the King of Prussia has arrived and I must go to the lecture hall."

The manuscript of William James's *Will to Believe* is in the collection. The list of first editions on exhibition is very long. It includes Mill *On Liberty*, Kant's *Critik*, Emerson's *Nature*, part of Spencer's *First Principles*, Bishop Berkeley's *New Theory of Vision*, Hobbes' *Leviathan*, and various works of Locke, Huss, Pascal, etc.

This collection is the beginning of a large collection which the Division of Philosophy hopes to build up covering many divisions of its field so that scholars may be assured of a place in this country where they can find original editions of the chief writers on Philosophy systematically gathered.

The contributions to the collection already made have come from a large number of sources. The hope is expressed at Harvard that such giving may continue and that friends of Harvard and Philosophy, seeing the beginning already made, may be prompted to contribute from time to time precious volumes of a similar sort from their own libraries.

THE last few months have seen the reappearance of several of the European journals which were forced to suspend publication during the war.

The *Revue Néo-Scholastique de Philosophie* of Louvain, edited by Professor Maurice de Wulf, has sent out its issue of August 1914, the mailing of which was prevented by the German invasion, and has brought its file up to date by the publication of a number dated November 1914-1919. Commencing with February of this year it will appear every three months as formerly.

Another Belgian paper to resume publication is the *Revue des Sciences Philosophique et Théologiques*, printed at Kain. In Decem-

ber the editors brought out a double number, which completed the year 1914, and they will recommence regular publication in April, when the first two numbers of 1920 will appear under one cover.

The *Journal de Psychologie* of Paris, which suspended in 1918, has resumed publication with its issue of January 15, 1920. In the future instead of appearing bi-monthly, it will be published monthly except in August and September. In this first issue the editors, Pierre Janet and Georgas Dumas, announce a change in the management, which hereafter is to include not only French psychologists and alienists, but Belgians, Brazilians, Greeks, Italians, Roumanians, Spaniards and Swiss as well. It is pointed out that journals in the various Romance languages have a very restricted public in comparison with those to which the reviews in English or German appeal. To remedy this, the *Journal de Psychologie* hopes to become a truly Latin journal, publishing articles by psychologists from all the Latin countries and appearing simultaneously in the various capitals. Articles may be written in French, translated into French at the *Journal* office, or published in the national language of the author. In the latter case a brief resumé in French will be added. The editors say, "We have no need to say that in conceiving this type of journal we have in mind no hostile thought toward the English or American psychologists, to whom we are bound by so many scientific ties and so many national and personal sympathies. The *Journal de Psychologie* will publish, as in the past, French translations of their articles and notices of their works, and will feel honored in entertaining the most cordial relations with them, but it hopes to find in the Latin world the conditions of its development, as other reviews find these conditions in the Anglo-Saxon, Anglo-American or German world."

PROFESSOR GEORGE SANTAYANA is spending this year in Europe and devoting his time to writing. He has just completed a book on America which is now in the press and which will appear very shortly.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

MOTIVE AND CAPRICE IN ANTHROPOLOGY AND HISTORY

I

PROMISES of the future lie in the past. The achievement of to-day is but the suggestion of yesterday, and to-day is but a foothold on to-morrow. I can not share M. Boutroux's feeling that "the prejudice which makes us read the future in the past, springs from the mind's effort to reduce movement to fixity, life to matter."¹ A science which has won recognition, which has marked off the field of its efforts, and systematized those efforts and their results, becomes retrospective, and, at the same time, self-critical. Analysis and estimation of its achievements is a luxury it can not afford to forego. The path of least resistance may be leading into a *cul de sac*, which, by wise prevision, the science can escape. Intelligent self-direction is not easy unless the future be seen through the perspective of the past. Lacking both, the prospect, even of the courageous, is not enviable.

A history of anthropology, embodying the story of its motives, problems, presuppositions, methods and results, has not yet been written, but the attempt to briefly sketch this story may not be unwelcome.

Human nature is constant in its vagaries, if in nothing else. Man has ever been attracted by the unusual and the unaccustomed to the exclusion of the fundamental and the universal. First and last among the motives animating the anthropologist must be placed this love of the unusual, the fantastic, the grotesque. The play of savage life moves across his vision in true theatrical style, interesting and amusing because of its vagaries, its naïveté, its blindness to the obvious, its ridiculous over-emphasis of the unimportant, its amazing oblivion to the important. Shakespeare's Caliban is the classic embodiment of these "savage" qualities. Their unaccountability and childishness have been accepted as typical. Such qualities inspire the reader and the observer alike with new interests.

¹ Emil Boutroux, *The Beyond that is Within*, p. 46.

To maintain the interest there must be a kaleidoscopic shifting of the scenes in which fantasy follows fantasy.

II

Whether or not Herodotus is entitled to the epithet of Father of Lies, he is certainly the foster father of anthropology as well as of history, and he embodies just those interests and methods which we should expect to find both in the early anthropologist and in the early historian. When he describes the physical characteristics of another people, it is to note their differences from the Greeks; if he speaks of laws, customs, dress, it is to point out the way in which this people differs from the Greeks. Read his account of the Egyptians, in which he himself seems aware of this guiding motive. This is not to disparage Herodotus. Disparagement from the present-day ethnographer would, indeed, be conspicuously unseemly, seeing that every category of the fieldworker is provided by this admirable pioneer ethnographer. Witness his description of the Scythians: dress, manner of fighting, of burial, customs, superstitions, interpretation of nature. We, of course, fill out the categories more completely and more carefully; but this is the least that could be expected of us. Similar ethnographical and historical zeal we find in Diodorus Siculus, in Strabo, in Cæsar, and in Tacitus; but, except for a work here and there, such as that of Marco Polo, we meet with no resumption of this zeal until the renaissance of travel and exploration in the sixteenth and seventeenth centuries,—a revival due to Marco Polo more than to any other.

The contributions of the Greeks and Romans are, however, not limited to ethnography and history. Plato seeks to discover the laws applicable to a growing society with increasing wants that must be met by new methods. He attempts to select the necessary from the accidental. Aristotle is actuated by a similar ideal. In Lucretius we have an unexampled expression of the evolutionary point of view.

Roman speculation is followed by a long period of silence, save for discussion growing out of ecclesiastical and politico-ecclesiastical speculations about the nature of social organizations with or without personality—the *universitas* and the *civitas*. Not until the seventeenth and eighteenth centuries is speculation again occupied with origins and with racial, national, and human characteristics. There then appear Montesquieu and Voltaire with their comparative studies of customs and laws; Rousseau with his entrancing picture of a life according to nature and the natural equality of human rights; Hobbes, postulating a primitive society in which every man's hand

was raised against his brother; the learned John Locke, who proved from the accounts of travelers that ideas, even ideas of right and wrong, were not innate, but the accidents of birth and tradition; and who found in contract the origin of society.

By the eighteenth century the two methods which predominate to-day, those of observation and of speculation, were well under way, though inclined to hold themselves aloof and be as independent rather than as supplementary as possible. The reports of travelers gradually became more first-hand, more circumstantial, more discerning, finally developing into the monographs of the trained ethnographer. Meanwhile the theories of the French and English social philosophers grew and prospered, improving in logical acumen and in clearness.

The attempt to embody the products of both schools in one scheme is first undertaken by a too little known eighteenth century legalist and philosopher, the Scotchman, Lord Monboddo. Lord Monboddo hopes, by bringing under his purview all types and races of men, to discover the nature of man as distinguished from all other members of the animal kingdom. As the domestic animals were once wild, so likewise was man, until he became domesticated by the institutions and arts which he evolved and which, in turn, evolved him. Hence, in savages, representing a condition through which civilized nations have passed, is to be found that which is fundamental and elementary. "If we have discovered so many links of the chain," writes this evolutionist, "we are at liberty to suppose the rest, and conclude that the beginning of it must hold that common nature which connects us with the rest of the animal creation."²

A true successor of Lucretius and of Lord Monboddo is E. B. Tylor, a contemporary of Darwin and of Spencer, who does for human society very much what Darwin does for animal society, both by way of theory and by way of illustration and attempt to demonstrate by ample fact the correctness of the theories. Tylor's contributions combine a masterly command of facts with an unusual acumen of judgment and facility of expression. This modern Lucretius brings to the study of evolution and survivals the contributions of fact made by ethnographers and historians, and the contributions of ideas made by the classical and modern social philosophers.

Thus, the briefest historical survey of motives and methods applied to human society reveals two as predominant and almost concurrent: the ethnographic or descriptive, and the speculative. It reveals, also, that neither of these can be developed in isolation nor

² *On Language.*

treated as self-complete and self-directive. The parallel historical development which they represent can not be merely an accident of history. Each has, in fact, at almost every stage of its development, played into the hands of the other. Theory has been revised and reawakened from its dogmatism through the new facts furnished by the fieldworkers. The fieldworker is none the less indebted for his point of view and for the fruitfulness of his facts to the speculative interest which is part of his educational inheritance. Theory and speculative interest have, throughout, given rise to interpretations and generalizations—and with valuable results to science. It is a case in which the head can not say unto the feet, “I have no need of thee,” more than feet to the head, “I have no need of thee.” “To execute great things,” said Nietzsche, “is difficult, but the more difficult task is to command great things;” and it is the more inclusive. It has always been and ever will be true that we understand facts in the proportion that theory develops and clarifies. If theory that takes no account of the facts is only idly blowing bubbles, collecting facts without theoretical guidance is only gathering potsherds.

III

There is a tendency to treat anthropology and history as separate and apart. Those who recognize the intimate relationship of the two interpret this relationship in various manners. Anthropology is represented as a subdivision of history; or as pre-history; or as history from the larger perspective, including, rather than included by, history. The close relation with history is obvious enough, and to ask, “What is anthropology?” is first to ask and answer the question, “What is history?” We have so frequently been told that history is but a record of events that we ought no longer to entertain serious doubts. Many historians seem dominated by no more intelligent inspiration.

Did we not reflect we might be satisfied with this simple answer, as pointless as it is simple. The difficulties which it raises are not dissipated by dismissing them. G. Staniland Wake once remarked: “that which is *possible* in social life may reasonably be expected to occur somewhere or other on the earth’s surface.” Will history be complete only after recording all possible occurrences, and will it be complete then?

The old *Chronicleurs*, says Max Nordau, were, after all, the true historians, because they imposed on their subject-matter no personal nor social values, giving full recognition to all events alike,—earthquakes, famines, fires, and plagues, as well as political affairs. But when were these *chronicleurs* not selecting from among the events

within their cognizance—despite the fact that such selection involves evaluation? The bite or buzz of a mosquito is as much an event as an earthquake or a famine. Try as I may, I can not discover how historians will proceed without choosing their facts, nor how this choice is possible without evaluation. To describe the task of the historian as simple is comparable to calling the problems of life and duty simple. To say that the historian recognizes no such difficulties, in the sense of being profitably aware of them, is another matter. If history “calls forth conceivable explanations, criticizes these same explanations, and retains those among them which withstand her objections,” history is both in fact and of necessity, interpretative and fraught with all the charm and hazard of an endless dialectic. Some recognition of this difficulty is embodied in the plaint of a contemporary historian who has, somewhat after the manner of Froude, fully recognized that “the first duty of the historical scholar is to grasp the fact that his limitations as a human being must ever debar him, even if the most complete material lies ready to his hand, from attempting more than a personal interpretation of some part or period of the past.”³ But, one might reply: If yours is but a personal interpretation, what interest has it for me more than any other personal vagary? One suspects that there may be some truth in the witticism that “History to be interesting and valuable should be recorded by persons of talent and prejudice or by chambermaids who listen at keyholes” (Flandrau, *Viva Mexico*, New York, 1909, p. 252).

Kant was stimulated by the “praiseworthy circumstantiality with which our history is now written” to “raise the question as to how our remote posterity will be able to cope with the burden of history as it will be transmitted to them after a few centuries.” He answers his question by the assurance that “they will surely estimate the history of the oldest times of which the documentary records may have been long lost, only from the point of view of what will interest them.” The thing that will interest them “no doubt will be what the nations and governments have achieved, or failed to achieve, in the universal world-wide relation.”⁴ Shall we accept Kant’s implication that the historian should cater to the interests of future generations, even as we make the past cater to present interests? What do we mean when we speak of the interests of future generations? Are they not always interests of our own generation which we vaguely realize and recognize as incipient, as interests not yet come to full fruition? How else shall we speak of interests of future generations?

³ H. Morse Stephens, in *American Historical Review* (January, 1916).

⁴ *The Natural Principle of the Political Order*.

It has been said that if a philosophy of history is a colossal task that of the anthropologist is comparatively easy, since he need do no more than collect and classify the thoughts and customs of various peoples.⁵ But as this classification must be from some point of view and with some end in mind, the data and method are bound to reflect a philosophy of some kind. If there is no critical background and no evaluation we have only vagary, facts without the promise of their rationale. Not that we should find it uncomfortable to circulate in a world of facts; but in facts which illustrate nothing, in a world of facts which are not embodied in principles and reflect no enlightenment, which *are* but tell no story. Why not dwell amid the facts of the Sahara and classify sand globules in the thousand-fold way that suits erratic fancy? Surely we are not Baconian enough to think of the mind as "like a glass, capable of the image of the universe, and desirous to receive it as the eye to receive light." What we see in nature or in science depends upon our training and experience. The answers which will be given to our questions are foreshadowed in our inquiries.

Herbert Spencer brought forward the charge—and I have seen it refuted only in a few noble exceptions—that the value of the knowledge imparted by the historian seems based on the supposition that while it would be a disgrace to be wrong about the amours of Zeus, and while ignorance of the name of the commander at Marathon would be discreditable, it is excusable to know nothing of the social conditions that preceded Lycurgus, and nothing of the origin and functions of the Areopagus.⁶ The historian and the ethnologist alike have more than once, and in more than one age, been guilty of kenneling the eagle and letting loose on empyrean flights the goose.

It has been said that the historian must determine what really *was* before the philosopher or the moralist can discuss whether the teaching was of permanent value.⁷ The philosopher or moralist might reply that he can posit the last and apprehend the worth of the idea whether history has or has not given him the illustration. But if only through the past can the present be understood, history becomes necessary as a ministering servant to the other sciences and philosophies. The best servitors are intelligently discriminating and sometimes anticipate wants better than do those whom they serve. In fact, the perfect servant becomes no despicable master, for mastery is, after all, but one phase of servitude; a mastery of men's minds

⁵ E. B. Taylor, *Nineteenth Century*, Vol. 40, p. 89.

⁶ *Contemporary Review* (1872).

⁷ E. C. Dewick, *Primitive Christian Eschatology* (1912). So Ranke: "First of all we must understand the world, and then desire the good," *Weltgeschichte*, Vol. 9, p. 236.

implies no small understanding of their needs, and no menial ministration to them.

IV

History has been concerned with our civilization. If it includes, here and there, the records of other peoples, of Greece, Rome, Egypt, or even the American Indian, this is because the bounds of our civilization are being pushed back into an ever more remote past, or because our civilization has been affected by or has itself affected the other cultures. For culture as such it has shown no concern. The ethnologist takes up the task where the historian leaves it and studies the cruder cultures for their own sake.⁸ As for the task of the anthropologist, why not return to the older and classical sense of anthropology as a study of man—of man as an expression of culture? Accepting the point of view both of the historian and of the ethnologist we might define his task as the problems of cultures.

Such a task involves, of course, an ability to recognize cultures and a method for treating them as definite entities. The adventurous nature of the task makes it none the less attractive. The cultures,—meaning by this term the continuous complex of customs, habits, and ideas of a people which is shared in its entirety with no other people—are real, are entities, are objective, and are concrete. They are both as real and as elusive as the characters of individuals. To individualize these cultures is, then, the beginning of the task, the supply of the “raw material.” If the possibility of such individualizing be doubted, as also the reality of these units, which some find only a metaphorical expression, the skepticism can arise only from the tardiness with which we depart from the habitual, or because we find it difficult to take a bird’s-eye view of those customs, habits, and ideas of a people which we can not readily envisage. Conceptual imagination must be brought into play, and traditional insight thwarts the outlook. It is not easy to combine the manifold into a unity that is comprehensive and compact, however loose the elements and however far-reaching the ramifications. I do not believe the task is any the easier when applied to an individual than when applied to a culture. The difference is that, in the one case, we accept the unity and reconcile as best we can the divergencies, while, in the other, we start with diversity and hope, in spite of it, to stumble upon some unity. The accidents of our historical approaches bring many tribulations of spirit when we wish to shift to a new angle. The *do ut des* theory well applies to the relation between the bequests of history and our outlook upon life, which can

⁸ But principally for his own.

find its perspective only through retrospect and orientate itself only when it has itself been orientated.

For one who will not bring imagination to the task any insight into the individualizing of cultures is precluded and words have no pregnant content. But if one is willing to forego the traditional for the sake of trying a new bill of fare, there is an intellegible menu with corresponding abundant and substantial fare. As characteristics of these cultures, by virtue of which we are enabled to individualize them and treat them as entities, one may indicate the following:

I. Each culture embodies or is embodied in a unified social, intellectual, and emotional life. There are frictions and misfits but there is, at least, a large measure of unification, enough of it to impart continuity, if not permanence, to the culture. The culture has its own inertia and continuum.

II. Each culture is characterized by a certain toughness and solidarity and by the interrelation and interdependence of its parts.

III. As these component parts are mutually dependent and supplementary we find a further characteristic in the articulation of the parts. Like the members in a living organism they function to mutual advantage.

IV. By its self-sufficiency and self-completeness, its self-containedness, and its ability to persist if others disappear, is culture to be recognized. These qualities, like those already mentioned, are, of course, relative. But are they not likewise relative in the individual whom we accept as an entity and as self-complete, although we do not suppose the individual is, strictly speaking, self-sufficient, or will persist unimpaired if all other individuals disappear?⁹

The ablest exponent of this view is undoubtedly Emile Durkheim, who has by word and method often reminded us that "the group thinks, acts, feels quite differently than its members would, were they isolated." "When individuals are associated, their association can give rise to a new life." "By aggregating, interpenetrating, fusing, the individual minds give birth to a being, psychic if you will, but which constitutes a psychic individuality of a new sort."¹⁰

⁹ Nor, for that matter, do we in any individual find a thorough articulation of the component elements of his make-up.

¹⁰ The best account to read for his conception of society is the *De la division du travail social* (1893). Those who have not access to his books and articles will find a most valuable interpretation in C. E. Gehlke's, *Émile Durkheim's Contributions to Sociological Theory*. (Columbia University Press: New York, 1915).

Next to Durkheim the works of Gustave le Bon give perhaps the most positive and the clearest expression of this conception. See also articles in *Revue*

The task of anthropology, then, becomes clearer. The individualized cultures are the data for anthropological effort as the individual is object material for the psychologist. What are the laws that apply to these cultures? What results from cultural contact and contagion? What is the rôle of the individual? How do cultures reflect progress in the arts, in ideas, in ethical achievements? Is this progress constant or intermittent, and perhaps backward as well as forward moving? Do the several cultures furnish us repetitions, in various form, of the same themes of social, and of individual struggle and success, or do the motives and methods fall into non-intersecting spheres?

But why proceed with an enumeration that must be endless? There are problems of cultures as surely as there are cultures, and there are cultural traits as surely as there are individual traits. To minimize the importance of cultural traits is perhaps the best evidence that we possess them in preeminent degree.

What is now most urgently required for ethnology, said Mr. H. Calderwood some years ago,¹¹ is that some one should do for that science what Kant did for philosophy, attempt a scientific separation of the necessary from the accidental. When this day arrives anthropology, like philosophy, will enter upon a new era of a critical turning upon itself, and will not lose itself, as previously, in facts, but find itself there; for facts will be, for it, illustrations of the laws which they exemplify.

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A NOTE ON DR. STRONG'S REALISM

THE difficulty I find with Dr. Strong's view (as set forth in *The Origin of Consciousness*) is not so much in the threefold classification of objects, essences, and egos, as in an insufficient analysis of the second class, "essences"—or rather of one subdivision of that class.

The essence of a thing, as I understand him, is its "what," as distinguished from its existence, the same whether it exists or not, its quality or character, or, as one might say, its nature or idea. *Evi philosophique*, Vol. 52 (1901) by Bouglé, *Le Procès de la sociologie biologique* esp. p. 142 et seq.; Tarde, *La réalité sociale*; Berne's *l'Individu et société*; Gaston Richard, *Le Réalisme sociologique*; and Gustave Le Bon's review of *L'Année sociologique*.

¹¹ See his review of E. B. Tylor's *Primitive Culture*, in *Contemporary Review* (1872), p. 222.

dently to ask what the nature of a supposable thing is, and to ask whether it exists, are distinct exercises of the mind. My difficulty is with his view of the nature or essence of certain objects, *i. e.*, of a certain class of essences. I refer to *sensible* objects, as distinct from those that can only be thought of, pictured or imagined; their essence seems to me insufficiently described, or perhaps realized. Instances are hot or cold air, sweet or sour-tasting food, fragrant or ill-smelling flowers, loud or low voices, heavy or light weights, colors of the various kinds. What is the essence of an object so far as it is hot or cold, sweet or sour, fragrant or the reverse, loud or low in tone, heavy or light, red or green? I get no clear and satisfying answer from Dr. Strong—and so far as he gives an answer I suspect that in a vital point it is mistaken.

With the general logic of his view, I find no fault—at least in this note. Grant that there are objects independently real (whether in space and time is perhaps a secondary matter); grant that there are essences of those objects, *i. e.*, their distinct and special character, separable in thought at least from the objects themselves; grant even that the essences may in a sense be real, even if not given, like the objects themselves—that consciousness or awareness or attention (they are to my mind substantially equivalent expressions) is not necessary to their being. All the same, the essences of sensible objects seem to me imperfectly or even, in one particular, incorrectly stated.

Let me at once indicate my point. Dr. Strong speaks of the essence “a cold object,” or the essence “a [ringing] bell” (p. 40). He argues that what we wake up to, when consciousness first begins, is not events or feelings within ourselves, but things outside—and I entirely agree with him. We are primarily aware of sensible objects, not of our awareness or feeling of them.¹ But what is the nature or essence of these sensible objects? Evidently this is a question for reflection, for analysis—the primitive mind probably never considered it. Indeed, I suspect that the primitive mind was ever more primitive than Dr. Strong imagines. I doubt if it had any such distinct notion as “things outside,” for this would imply the notion of “things inside,” and the antithesis of inside and outside is probably an acquired one. I doubt even if it had any notion of objects as distinct from subjects. What it had, I suspect, was simply experiences like cold, hot, loud, soft, sweet, sour, hard, heavy, red, green, without distinguishing them from itself, or itself from them—there being no separate self as yet from which they could be distin-

¹ “No metaphysical doctrine could be empirically more false than that which says that our earliest, our primary objects are psychic states” (p. 40).

guished. I doubt even if it could be said, when thinking of them, to posit their *existence*, for this implies doubt, questioning, and is an act of judgment. There were simply cold, hot, *etc., etc.*, and outside, inside, existence, *etc.*, were predicates born of later reflection. But apart from all this, which is mostly if not entirely speculation, what does the essence "a cold object" or "a sounding bell" mean to us now—or, to visualize the question more distinctly, what is the essence of an object *so far as it is cold*, or of a bell *so far as it sounds* or more simply still, what is the essence cold or loud?

Other people's consciousness may differ from mine, but so far as I can get any clear idea of what I mean when I speak of cold, it is a certain sort of feeling—something I may have at times or I may think of others as having, but in either case feeling, and when attributed to beings without power of feeling (if there are any), meaning little or nothing. A cold object then is one that gives me this feeling, when I am anyway in contact with it, or would if I were. I am aware that many people think that the cold is in the object and would be there whether any one had a corresponding feeling or not; but this, to my mind, is simply a very pardonable confusion, doing no practical harm and probably practically useful, and therefore not worth disputing about with those without scientific interest in the subject. In speaking in this way I do not deny, but rather assert that there is an object, *i. e.*, something independent of me which somehow produces or excites the feeling in me.

So with the sound of the bell, with odors, with tastes, with resistances, pressures or weights—they are my (or some one's) feelings, sensations, immediate experiences, not anything outside me which could exist by itself. The feelings are of very different kinds, and have themselves all manner of different subdivisions and shades, but they all have the common quality of being feeling, a state of some one's sensibility and apart from sensibility are meaningless. A feeling is hard to define, perhaps as an elementary kind of thing it is impossible of definition; but we all experience it without definition and know pretty well what the word stands for. Dr. Strong says, "A pain that we did not feel would, we rightly say to ourselves, be no pain—at least for us" (p. 204);² and we may say the same (according to my analytical reflection) of cold and sound and even resistance and weight—weight unfelt is as little weight as pain unfelt is pain. Undoubtedly there are things giving me this wide variety of

² Dr. Strong does indeed in one place (p. 199) speak of a feeling that is not "felt," but I think he means here introspected (he adds at once "or introspected"), and introspection is an intellectual exercise, connoting consciousness and attention, while feeling is not. That introspection is something secondary and not vital to feeling is certainly true.

sensation—the feelings do not come from nothing—and the things must sometimes be very complicated in their inner structure to account for the varieties and delicate shadings of feeling in us; and yet the feelings are one thing and the exciting objects are another.³

Color, it must be admitted, is a more puzzling case. *Prima facie* it seems outside us—itself a separate reality. We *look* at it, it is not our feeling—so we instinctively say; and I confess that direct analysis of our consciousness does not settle the question, as it seems to the nature of cold or weight; color may be an independent reality that we simply come upon. It is somewhat strange, however, that it is not commonly put among the primary qualities of matter, even by realistic philosophers, but is classed along with sound as a secondary quality, *i. e.*, one dependent on relation to sentient beings of some sort. Dr. Strong says positively enough, “objects appear colored, but we know that they are not really so—that what exists is a ‘texture of insensible parts’” (p. 228);⁴ so the grass “is not in fact green” (p. 100). Now this is as much a violation of our instinctive belief (common sense), as the assertion that the cold or the weight is not in the object—we naturally believe that we come upon these, as truly as upon the color. And if we are, as I think, indisputably under an illusion in these cases, why may we not be in the other?⁵ Still argumentation of this sort settles nothing, and I own that in taking color as a feeling rather than an independent reality, as I do now, I follow a variety of general considerations (which I will not go into here), rather than any assured result of introspective analysis.

But, if I may leave this rather limping statement as to color out of account, the essence of sensible objects in general comes to be something like this: they are objects *begetting* (or giving occasion to, exciting, evoking—I will not say just what is the proper form of ex-

³ Just how the objects are related to feelings is another question, perhaps largely theoretical. Do they cause them, or simply by their action excite them, acting thus as a stimulus? Professor Woodworth (*Psychological Review*, XXII., 22) speaks of a percept as an inner reaction to a sensation; I incline to think that a sensation itself is a reaction to an outside stimulus (I learned the view from the late Dr. Edmund Montgomery, but it is not uncommon among reflecting psychologists).

⁴ Dr. Strong thinks, with the physicists, that “the color is not so much in the object as in the reflected light” (p. 228); but why the reflected light should not be equally in itself a “texture of insensible parts” I fail to see. The undulatory theory gives us waves, motion, not light, though they may of course produce (excite) light in beings like ourselves.

⁵ William James spoke of red, blue, as feelings along with cold, heat, pleasure and pain, sound, *etc.* (*Psychology*, II., 618—*cf.* the expressions, “somebody must feel blueness, *etc.*,” II., 7, “when feeling a color, *etc.*,” II., 113).

pression) certain *feelings or sensations in us* ("us" meaning sentient beings in general, or at least sentient beings of our type, whether human or subhuman, or, for that matter, superhuman, if there are any). The point is that feeling belongs to the *essence* of sensible objects; it is a part of their nature or idea; without it, they are not sensible. There may be objects that are not sensible, not hot or cold, not bitter or sweet, not fragrant or noisome, not loud or soft, not heavy or light, not red or green or of any color, but sensible objects of these types have feeling as an essential part of them—it is not an addition, but belongs to their being.

So far as I can gather, Dr. Strong does not admit this, or realize it. He speaks of "objective green" and of the green in sensation, as if the two were different, the latter a vehicle by which the former is apprehended by the mind—at least so I understand his language on p. 100. He distinguishes between "sound as an external fact" and "sound as a feeling" (p. 197—*cf.* p. 202). So he speaks of "objective heat" (p. 313). In this case it is possible that he only means the greater activity of the molecules of an object, which is the objective basis or counterpart of heat; but in another place, in referring to touching a hot object, he distinguishes the heat in the object from the heat in the touching member, and even says of the savor of a taste of soup that it may be felt both as a quality of the soup and as a sensation in the mouth (p. 81). I may lack in fineness of observation, but I am unable to discriminate between these things. The heat of the object *is* my feeling of it (existing perhaps or at least localizable in my finger); if there is any heat properly speaking *in* the object, it must be that there is something there feeling it too. So the savor or quality of the soup is my sensation of it, though it may have a complication objective basis and very fine work on the part of the cook have been necessary to make it possible for me. I may be mistaken in my reading of Dr. Strong's thought, but as I read it, it seems to involve an unnecessary duplication of things. There is apparently the sensible object outside of us,⁶ and then by means of an elaborate mechanism the same object gets inside us—only not the

⁶ *Cf.* the detailed descriptions on p. 93, of such charming simplicity that I become almost skeptical of my own position as I read them. I only recollect that the hardness, sweetness, fragrance, *etc.*, described, may possibly after all be essences without reality, and I think to myself that I should rather have them if only as feelings than a possible ghost. (*Cf.* the language, p. 175, "The first character of the essence is that it is not an existence. The essence is, as we have seen, the object without its existence, and therefore a mere ghost or vision of the object, the same in sense-perception as in hallucination.")

object itself, but the essence of it, sensible qualities included,⁷ its existence at this stage of the game being simply an assumption. My objection is that the nature of those sensitive qualities is not realized, their essence not perceived. There is no object with its sensible qualities outside us, there is only an object giving (or arousing in) us certain feelings or sensations which we call its sensible qualities, and do no harm in so regarding for all the practical purposes of life. In short, we need no *vehicle* to convey what is outside to us inside; we need only the action of the outside on the inside—objects and sentient beings are enough, and *sensible* objects are the result of their interaction.⁸ “Essences” are a useful and perhaps necessary distinction for thought purposes, but they are not a necessity for the explanation of sensible knowledge (knowledge of sensible things). It is actual heat, sound, weight, red that we experience in sensation, not merely the essence of them; in sensation they have all the reality they ever have—though what lies back of them in the outside object is another question.

Indeed, the result of Dr. Strong's particular type of realistic thinking seems to be that we hardly know reality at all—we only assume it. He does, it is true, say that we perceive not sensibles but sensible objects, but it turns out that what he means is not

⁷ Dr. Strong even speaks of visual or tactile sensations bearing in their own nature “the *impress* of the object” (p. 122, italics mine—cf. what is said of correspondence in respect of qualities, extension, etc., on p. 112, also p. 140; and of the visual sensation as “a sort of duplicate or picture of the object” on p. 129), thus suggesting the copy theory, though it would not be fair to press the language. Aristotle appears to have had a similar dualism, according to H. W. B. Joseph (*Mind*, October, 1910, p. 468), who speaks of his “notion about the reception in the αἰσθητήριον of the αἰσθητὸν εἶδος (the εἶδος = Dr. Strong's “essence”); e. g., in touch, the heat, or cold, which may be said to be the form of the tangible body, as a state of it, is received in the organ of touch by its becoming similarly hot or cold; . . . similarly in hearing, the κίνησις, which is the form, of the sounding body, is reproduced in the συμφύτως ἄηρ of the ear.”

⁸ One of Dr. Strong's problems (p. 112) is “How can a sensation or a mental image convey an essence [*i. e.*, a physical one]? How, being a psychic state with different characters and having, as such, one essence, can it cause another essence to appear?” The problem seems to me to arise from the artificial chasm he has put between the essences in the first place. The sensible qualities are psychical essences *ab initio*. Cold, weight, etc., are as much psychic as pain is, though it may require a little reflection, *Selbstbesinnung*, to realize it. This is not saying, after Berkeley, that the *esse* of sensible objects is *percipi*, nor even that the *esse* of sensible qualities is *percipi*, but simply that the *esse* of these qualities is *sentiri*—a very different proposition. Feeling and perception are distinct—feeling of itself is not cognitive at all (Dr. Strong uses *sentiri* as equivalent to cognition or at least consciousness on p. 195, which I think fails to note its distinguishing mark).

existing sensible objects, but the *essence* sensible objects. "What is given in sense-perception is not the object as an existence, but only the object as an essence" (p. 36). "Given essence and actually existing object are mutually independent" (p. 51). In this way he thinks it possible to explain hallucinations, where there is "givenness of an object when no object exists" or "perceiving objects where no objects exist" (pp. 51, 62). However this may be (and for my own part I think that hallucinations should be classed with imaginations rather than sense-perceptions), we know, according to his view, only essences—their existence, embodiment in an object, being an addition and an assumptive one.⁹ We act as if there were real objects—that is about all he can say.

All this is in reference to external reality. But is it possible that, in accordance with Dr. Strong's method of reasoning, the question may be raised as to the reality of our knowledge of psychic states, such as sensations, pain and pleasure, desire, emotion and volition? Do we know these things themselves, or only their essences? "In perception," he says, "the essence and the existence of the object divide" (p. 40); how is it in introspection? "Owing to the subjective mechanism of the givenness of essences, the truth of any given act of cognition can only be presumptive" (p. 41)—does this hold only of physical essences? "Consciousness is only of essences" (p. 44)—is this a *general* statement?

The question is somewhat intricate and I shall proceed tentatively. That there are the two kinds of essences, in his view, appears plain ("there are two kinds of essence: the essence 'a physical object,' which is the kind given in sense-perception, and the essence, 'an emotion,' 'a desire,' 'a feeling of pleasure or pain,' which is the kind given in introspection," p. 89). In speaking of the visual after-image (pp. 194 ff.), which he calls a psychical existence, he says that it is given only as an essence. Moreover, pleasure and

⁹ Dr. Strong does indeed speak of knowledge of the object (*cf.* p. 43), but as above explained it is really knowledge of its essence; the object itself, the existing thing is, he repeatedly says, simply assumed, presumed, asserted, affirmed, believed in. The affirmation is "instinctive" (p. 40); we possess "a well-nigh irresistible instinct to act as if objects existed" (p. 222). Once he gives a sort of definition: "Cognition is extremely simple; it is nothing but the givenness of an essence and the acting as if an object existed" (p. 40). Givenness without affirmation being expressly denied to be knowing, the characteristic mark of the latter comes to be *acting* as if an object existed (*cf.* p. 111, affirmation "is to be explained as merely the implication of acting as if the object existed"). Instinctive affirmation, then, or even "acting as if"—such is the reduction of knowledge, and, I am tempted to say, its degradation! Is it not better to keep the honorific word for what is worthy of it? Dr. Strong, even speaks of "erroneous cognition" (p. 41). This to me is something like "false truths"—or is it only a question of terminology?

pain, emotion and will are in this respect put on a par with it (p. 95)—so apparently they, too, are given only as essences (all this in connection with argument for another purpose, but the implications seem to be as stated). On p. 194 (*cf.* p. 199), he distinctly asks the question, is introspection “dependent on a mechanism analogous to that underlying perception cognition?” As nearly as I can make out, the answer is affirmative, with a possible exception. There may be direct cognizance of a feeling for the instant it lasts (so I interpret a parenthetical explanation on p. 200), but this sort of cognition is practically negligible, for the next instant the feeling may be gone and the cognition of it be possible only through memory.¹⁰ Now in memory, the object, *i. e.*, in this case, the feeling is only given as a mental image, and it is through this primary memory-image that introspective (as distinct from perceptive) cognition takes place. It would appear then that to this extent introspection is vehicular like sense-perception—images, essences, not the things themselves are what is given. “The feeling is given by means of a vehicle, which is the primary memory-image”—such is his language (p. 207). He enlarges on the fact that the image in this case is a repetition of the feeling with almost equal vividness, so that the vehicle is adapted to render the object with almost perfect adequacy (p. 208, *cf.* p. 231); still the vehicle is different from the object, and we only know the latter through the former, not directly. Indeed, our cognition may in this way not only be incomplete, but (to retain Dr. Strong’s use of language) erroneous. There may be imaginary feelings. “In truth,” he says, “there is as much difference between an imaginary pain and a real one as there is between an imaginary horse and a real horse” (p. 90). Yet the essences of an imaginary pain and a real one are the same, *i. e.*, essences are no evidence of existence and essences are all we directly know. When we speak of knowing pain, then, what we mean is that we know the essence pain and simply assume its existence. Either that, or knowing an imaginary pain and knowing a real one are the same thing—“knowing” here meaning a certain sort of intellectual act or relation introspective of the reality of its object, in accordance with the sense in which Dr. Strong and many others appear to use the term at the present time.¹¹ I do not wish to press this line of criticism and am only developing what seems to be a matter of fact, the logical implication of his general view, and am

¹⁰ The interesting psychological refinements as to how memory is possible, its intimate nature (pp. 199 ff), I pass over.

¹¹ I say “appear,” for sometimes (as on p. 220) Dr. Strong uses cognition in the stricter sense, speaking of cognition as “really such,” *i. e.*, with an object really there, “there as it appears to be.”

open to correction. His thinking is infinitely refined, and I may miss some of its nuances.

Is not the trouble (so far as there is trouble—I do not wish to be too dogmatic) with the vehicular theory itself? The alternative it involves “is either to be skeptics or to take things on trust” (p. 222). But do we need to take feelings on trust, knowing only their essence, not their reality? I think not. Do we need to take cold, hot, sweet, sour, loud, soft, heavy, light, red, blue, on trust? I think equally not. And these being real, directly real, may they not involve other things, which if not directly may be equally real—by real in all cases meaning existing independently of cognition of them, or of consciousness or thought or perception or whatever the specific *intellectual* exercise may be? Essences are a valuable distinction, as I have said, for thought-purposes, but as such, *i. e.*, as separable from reality, they exist only in thought, and have no part in an ontological or epistemological explanation of things.¹²

And yet I may add that with the intention of Dr. Strong to develop a tenable critical realistic doctrine I am in entire sympathy. I could even use some expressions of his as my own. He speaks of the “power of the object to evoke” the feeling (p. 199)—this, said of the “tertiary” qualities of external objects, such as “fearful,” “hateful,” “soothing,” is what I should say in connection with the sensible qualities that have been under discussion. So when he says, “the object known is actually there at the moment acting on the senses, and . . . determining by its action the character of the psychic state” (p. 113), I quite agree. So also when he speaks of “states of our sensibility” as “symbols of objects,” or of the sensation as the “index” of the object—these being for practical purposes—I agree. I should agree, too, entirely with the remark, “sense-perception is a relatively external way of knowing, which shows us the relations of things but not their inner nature” (p. 125)—a remark which I consider very pregnant for future theoretic construction.

I have, of course, dealt—and that imperfectly—with only one of the lines of thought, and perhaps a subsidiary one, in this rich and many-sided volume.

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¹² Under “Requirements of Logic” Dr. Strong puts “the object must be kept free from admixture with the psychic state;” but if sensation, feeling, is included under “psychic state,” the requirement is pure assumption. So under “Requirements of Psychology” he puts “The knowing must be vehicular” (pp. 188-89). But with all respect to Dr. Strong, I incline to say of these “musts” what David Friedrich Strauss said of the “Christian consciousness,” which apologists of his day sometimes sought to make normative over the results of scientific criticism of the Bible, *mulier taceat in ecclesia*.

THE LOGICAL STATUS OF ELEMENTARY AND REFLECTIVE JUDGMENTS

FOR traditional and modern logic alike, judgment is the unit of thought. In judging, we synthesize ideas in such a way as to produce in the mind a relational structure which corresponds to some relational structure in the objective world. This is expressed in various ways, and with varying implications; but in general, judgment may be regarded indifferently as the reference of an ideal content to reality, or as the apprehension of real relations. From the psychological side, it is a resultant of a series of complex processes, expressed by calling it a "synthesis of ideas;" from the epistemological side, it "refers to reality," or apprehends relations which are objective.

So far, traditional and modern logic may be said to agree. But a difference soon develops. For traditional logic, *all* thought is of this general kind. For modern logic, only a small part of our thinking falls within this field, which is treated as the field of "elementary" judgment. The modern viewpoint in logic, as in other sciences, is fundamentally skeptical, critical, and reflective; and for the modern logician, the vast majority of our judgments belong to the field of thought about thought, reflection upon method, critical or reflective judgment, which only mediately, if at all, is concerned with a reality beyond that of the mind itself. Expressed technically, traditional logic recognizes only the *Urteil*, while modern logic recognizes the *Beurteilung* as well as the *Urteil*.

The object of the present paper is to inquire whether this distinction between traditional and modern logic should not be carried still further—whether the *Urteil* should not be relegated entirely to traditional logic, and modern logic recognize only the *Beurteilung*. If this could be carried through, traditional and modern logic would no longer have a common term (*Urteil*), and their difference of standpoint would be so plainly marked that no confusion and apparent conflict could arise, as it so patently does at present, *e. g.*, in the treatment of negation¹ and of hypothetical reasoning.

I

Let us begin with a brief statement of the present practise of modern logicians,² who explicitly recognize both the *Urteil* and the *Beurteilung*. Judgment, according to the general modern view,

¹ Cf. Lodge, *Intro. to Modern Logic*, pp. 108–115, and "Negation in traditional and modern Logic" in *Mind*, Vol. XXIX, 1920.

² *E. g.*, Bradley, Bosanquet, Wundt, and Erdmann. The distinction is especially marked in the work of Sigwart.

arises out of reflection upon sensory experience. The primitive sensuous consciousness is split up, certain elements are cut off and fixed by the mind, and by the application of such intellectual standards as identity, difference, and organization, select elements from the original material are so worked over and reconstructed that they can be taken up into the intellectual self-consciousness in the form of concepts or mental counters which can be referred to, or judged of, Reality, which is supposed to be intelligible through and through, an ideal individual. Judgment, then, consists in performing intellectual operations upon primitive experience, in reflecting upon this, in taking it up into self-consciousness.

In this reflection, which constitutes judgment, modern logicians recognize various stages, such as the perceptual, experiential, symbolic, and transcendent, according as sensory or intellectual elements predominate.³ But they also recognize various levels of "reflection" in a different sense. A perceptual, no less than a transcendent judgment, is taken up into self-consciousness—that is the nature of all judgment. But there is a further level of "reflection," at which we consider, not the data of sensory experience, but our own judgment about these data, and reflect upon the method of this judgment, its validity or invalidity, its success or its failure to bring us in touch with reality. These two levels of reflection are distinguished as the *Urteil* or elementary judgment, and the *Beurteilung* or critical, reflective judgment, respectively.

Let us examine these distinctions a little more closely. In order to avoid confusion, we must at the outset explicitly recognize in every judgment, whether elementary or reflective, a two-fold reference. There is an objective reference on the one hand, and a subjective reference on the other. Thus, at the primary level of reflection, in the elementary judgment, I apprehend some objective relation (*A* is *B*, *C* is not *D*), and also am at the same time aware of my apprehension. I am aware that I have judged *A* to be *B*; or if, for any reason, I fail to complete the judgment, I am aware that I have failed to judge *A* to be *B*. Every judgment, without prejudice to its numerical unity, has these two aspects, the objective and the subjective. They differ as consciousness differs from self-consciousness, as *Leben* differs from *Erleben*, or as, in neo-realist terminology, "contemplation" differs from "living." On the one hand, our attention may be focused especially upon the reference to *reality*, upon the objective relations. It is the *B*-ness of *A* which then occupies the foreground of consciousness. We do not consider that we may be seeing through prejudiced eyes, but assume naïvely

³ Cf. Lodge, "The Division of Judgments," this JOURNAL, Vol. XV. (1918), pp. 541-550.

that it is with the "reality" that we are in contact, that *A* is without question *B*. On the other hand, our attention may be focused more particularly upon the subjective side of the judgment, upon ourselves. We are then aware that it is *we* who are recognizing *A* to be *B*. The judgment represents *our* opinion; and we raise no question *re* its possible validity or invalidity, its relation to something other than ourselves—the "reality."

At the secondary level of reflection, we have lost this naïve confidence in the validity of our thinking. We criticize the judgment itself. Is *A*, after all, *B*? Is not that merely our *opinion*? The evidence *seems* to point in that direction; we may, perhaps, *provisionally* accept (or reject) the hypothesis that *A* is *B*. What, at the primary level, was accepted at its face value, as a "judgment" or apprehension of objective relations, is now regarded as a "hypothesis." The issue is re-opened, and is left open. We no longer judge *A* to be *B*, but rather: "It seems to me that *A* is *B*," "So far as the evidence goes, it would appear that *A* is *B*," *etc.* We are only mediately, if at all in touch with "reality." All judgments are regarded as man-made, hypothetical, open to doubt.⁴

It might be urged that we can go further; that there is a tertiary level of reflection. We might *e. g.*, criticize such a "judgment about a hypothesis," and might ask, "Is it true that the evidence indicates *A* to be *B*? Were we right in judging that we really thought *A* to be *B*?—Or was not this also a hypothesis, liable to error?" Judgment at the second level of reflection is thus seen to be also hypothetical, man-made, open to doubt.—It is true that we do sometimes re-open a question of critical reflection, and go over the evidence a second or even a third time. But this is not sufficiently different from judgment at the second level for us to draw further distinctions and recognize grades of reflection to the *n*th degree. In all further reflections, we simply go over the evidence again, such as it is, and thus re-affirm (or possibly revise) our previous decision, without much further advance. Unless new evidence is adduced, it seems best to regard all reflective judgments, all reconsiderations of evidence, as belonging to the same general level of reflection, *viz.*, the second, the level of *Beurteilung*.

II

From the standpoint thus indicated, it may well be asked whether the theory of judgment at the primary level of reflection ought not

⁴ Here also we have an objective reference, as apprehending at least our previous decisions or viewpoints as "ideal entities." So too there is a subjective reference, so far as we are aware that we are dealing with ideal entities, or mental constructions, rather than with immediately given sensory realities.

to be rigidly excluded from modern logic. There appear to be two main grounds on which this exclusion might reasonably be demanded. In the first place, it might be urged, modern acceptance of the second level of reflection has destroyed forever the possibility of regarding our naïve mental processes at the primary level as *judgments* in any strict sense. In the second place, it might be pointed out that contact with reality represents, for modern logic, an ideal rather than an actual fact. It is not something with which we start, something with which we are all familiar, but is something with which we hope to end, something with which we hope to make ourselves familiar. We have not enough knowledge to make an *Urteil*, but construct hypotheses, recognized as such, in order gradually to discover, if possible, what "reality" may prove to be. On both these grounds, the conception of an *Urteil*, an elementary judgment in immediate and final knowledge-contact with reality, would seem to have no possible place in modern logic, though its place in traditional logic would remain undisturbed and unquestioned.

Let us consider each of these arguments more closely. If, with modern logicians generally, we adopt the second level of reflection, and regard ourselves as only mediately and distantly, if at all, in knowledge-contact with reality, we are *ipso facto* excluding from the class, completed judgment, all results of thought at the primary level of reflection. We are definitely declaring that these elementary attempts at judgment are no judgments at all, but are rather hypotheses, mental constructions, about which the question has still to be raised, whether they do or do not apply to reality. Until that question has been raised and decided, one way or the other, we have not judged. Such cases of jumping to conclusions are, of course, facts. They are even fairly common. It is not intended to deny that they are facts. The force of the criticism is directed solely against recognizing them as completed intellectual operations, as judgments. Such naïve attempts at judgment seem, perhaps, to be especially the product of animals and young children. Their beliefs are a matter of custom, of frequent experience, and depend on the laws of association. They are not yet elevated to the level at which rational judgment begins,⁵ but, as Wundt says, man reasons seldom, brutes never. The primary level, then, is a matter for psychology of the thought-processes rather than for logic. At

⁵ Cf. Wundt, *Logik*, 3^e Auflage, p. 74; Erdmann, *Logik*, 2^e Auflage, pp. 65, 71.

this level we have general ideas, abstract notions, questions, hypotheses. But we have not judgments.⁶

In the second place, completed judgment, an act of thought which definitely places us in final knowledge-contact with reality, represents, for modern logic, an ideal rather than a fact. It is no primitive or unreflective judgment, but, on the contrary, demands all that we can bring to its service in the shape of deliberation, reflection, the critical use of scientific method, *etc.* Ideally, there is, for modern logic, only one judgment in this sense, the transcendent ideal of Omniscience, and our elementary and superficial beginnings of thinking are so far from being judgments, that they are at the opposite pole of thought. If we care to speak of "judgments" at all, in the sphere of finite human thinking, we can legitimately refer only to the methodical and critically self-conscious attempts which approximate to realizing this ideal of judgment.

From these considerations, it appears that the modern logician should, in consistency, exclude from consideration what is called the elementary judgment, and should recognize as the unit of thought only the critically reflective judgment, the *Beurteilung*. For the modern logician, judgment should be consistently regarded as the reference of an ideal content, *recognized as such*, to a reality beyond the act. The reference to reality should be explicitly recognized as mediate, far off, a regulative ideal to guide our gradual improvements upon previous hypotheses, and "judgment" will mean, not completed judgment, but this progressive advance in consistency and individuality, this taking one step nearer to the indefinitely distant goal.

III

If we adopt this viewpoint, we notice at once that, as there is now no common term (*Urteil*) to connect us with the teachings of traditional logic, we are in a position to keep clear of a number of distressing confusions which have arisen from the lack of a sharp distinction. In particular, we can escape from the prevalent ambiguity on the subject of negation, and on the subject of hypothetical reasoning. The negative judgment of traditional logic is the apprehension of a relation of difference or exclusion. It is, that is to say, an elementary judgment, exactly on a par with affirmation, or the apprehension of a relation of identity or inclusion. For modern logic, there is no such immediate apprehension of ob-

⁶ So too in ethics, where a similar difference of levels is found, the elementary level of *φυσική ἀρετή* is usually excluded from ethics proper, and is relegated to psychology.

jective relations. All critical judgments are systematic, *i. e.*, contain elements both of identity and of difference, inasmuch as they are mental constructions which approximate to reproducing the structure of the one completely systematic individual, Reality. Reflective judgments, then, are neither affirmative nor negative (except, of course, in linguistic expression), but, in virtue of synthesizing those opposites, have transcended their opposition. The modern doctrine of the subjectivity of negation, then, should be understood in an entirely different sense from the traditional treatment of negation. It consists, in fact, in the recognition that some mental construction of ours has failed to bring us into contact with reality. Understood thus, as referring to widely diverging senses of the term "judgment," there is no conflict between the traditional doctrine that the negative *Urteil*, *A* is not *B*, apprehends an *objective* relation of difference, and the modern view of the *subjective* significance of negation, understood as the *Beurteilung* that, having failed to get in touch with reality we are unable to say whether *A* is or is not *B*. For tradition, there is a relation between *A* and *B*, and we apprehend it; for the moderns there may or may not be a relation between *A* and *B*—this point is not disputed, and there is no conflict with traditional logic on this head—but the naïve confidence of traditional logic has vanished, and we are left with the critical doubt as to whether we can succeed in establishing any such relation. By the complete exclusion of the confusing common term, "elementary judgment," from modern logic, the traditional and modern viewpoints can be kept distinct, and confusion in the treatment of negation can be avoided.⁷

So too in the treatment of hypothetical reasoning, much labor has been expended in reducing the categorical to the hypothetical form, and *vice versa*. For traditional logic, the categorical form is fundamental, and the hypothetical form expresses the (categorical) apprehension of the special relation between antecedent and consequent. For modern logic, the formal and linguistic opposition between categorical and hypothetical is transcended. All judgment is regarded as containing both categorical and hypothetical elements, and the naïve faith in such an entity as a strictly categorical judgment has departed forever. Many modern logicians, however, following in the footsteps of Lotze and Sigwart, retain the cate-

⁷ *E. g.*, Boyce Gibson (*The Problem of Logic*, 1908), who tries to combine traditional logic with modern views, suggests the term "dialytic relation" for what is apprehended in negation in the modern sense. He even speaks of a "dialytic relation between *S* and *P*," when he means that we recognize that we have apprehended *no* relation between *S* and *P*. That this is confusing is sufficiently apparent.

gorical as a superficial and undeveloped form of the hypothetical judgment, and thus retain, in the new logic, many confusing elements of the old logic which they wish to supersede. If the term, "elementary judgment," with its categorical and hypothetical forms, is relegated to traditional logic, the more modern attempts at constructing a tenable theory of the function of logical thinking can proceed on their path free from the above confusion.

Our general conclusion, then, is that the place of elementary judgment is strictly to be confined to the body of thought known as traditional logic, and that, for modern logic, the critical or reflective judgment should be regarded as the unit of thought. This plea is based upon theoretical and practical considerations. From the standpoint of theory, traditional and modern logic rest upon distinctly different presuppositions, and should be kept distinct in the interests of consistency and intellectual clarity. More particularly, modern logic seems to have no legitimate place for the elementary judgment. From the standpoint of practise, many confusions arise from the attempt to retain the elementary judgment in a modern theory, especially in connection with the treatment of negation and of hypothetical reasoning. In the interests then, both of theory and of practise, the elementary and reflective judgments should be regarded as belonging to traditional and modern logic, respectively.

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REVIEWS AND ABSTRACTS OF LITERATURE

Prophets, Poets, and Philosophers of the Ancient World. HENRY OSBORN TAYLOR. New York: The Macmillan Company. 1919. Pp. viii + 294.

Under this rather unfortunate title Mr. Taylor has republished the little volume we knew as *Deliverance*, but in compensation he has revised his preface, worthy to rank with *The Free Man's Worship* in its perfect Platonic blending of philosophic truth and beauty. Mr. Taylor here gives us another of his sympathetic interpretations of those Great Ones of the past whose spirit he has made his own; but he does more than this: he lays bare his own philosophic convictions, and his philosophy is indeed refreshing to those who do not feel that the problem of knowledge or the problem of logic holds all of life's mystery. For he is a humanist who believes that the soul of man is by far the most wonderful thing in the universe, since it is the gateway to that ideal realm where alone

true freedom resides. Mr. Taylor's philosophic creed might well be pondered by those who feel that the sweeping away of the past is the necessary prelude to progress. "They who may have died ages ago are nearer to us than the alien masses among whom we move. They are the spiritual fathers of us all, and we make ourselves consciously their sons by coming to know them in their achieved or striven-for adjustment of themselves with the eternal, and in their attunement of their desires to human limitations. . . . Although that which those Ancients reached, or even that which they tried for, may not be for us, still the contemplation of their efforts is as the effect of noble sculpture and poetry, bringing something like the final calm, the emotional purge, of tragedy."

Mr. Taylor reminds those of us who have just found out what an admirable baking-oven philosophy can be, that, after all, it is something more than that; it is the process of adjustment between the human soul and the strange and mysterious world in which it finds itself. The quest of life, as Margaret Fuller discovered, is how to accept the universe; for it is in the measure that men are able to achieve harmony within their souls that they find deliverance from the manifold evils that afflict the unphilosophic mind. It matters little whether the goal be called adaptation, adjustment, freedom, the peace of God which passeth understanding; millions have yearned for it, and the Great Ones of earth are those who have pointed out the way. Many are the paths, and Mr. Taylor has spent his life in revealing to us "the way in which our spiritual ancestors of all times and countries adapted themselves to the fears and hopes of their natures, thus reaching a freedom of action in which they accomplished their lives; or, it may be, they did but find peace; yet brought it forth with such depth of conviction that their peace became peace for thousands and for millions."

Mr. Taylor himself feels that not the attainment of the ideal, but its earnest and devoted pursuit, constitutes the true deliverance. We are, perhaps, too prone to identify "peace" and spiritual calm with a state of supine withdrawal from life's storms; yet there are some of us who know what it is to attain true repose of spirit in merging ourselves in the ardent pursuit of some great goal envisaged from afar. There are some who found in whole-hearted devotion to the cause of the Allies a peace so wondrous and strange that it sustained them in the bitterest hours of conflict; and there is no great cause which can not become the deliverer of those who make it their own. It is this peace that springs from the employment of all a man's faculties in an ideal purpose that, for Mr. Taylor, and, we are tempted to add, for all true humanists, is the goal of the philosophic quest. "The content which the common man finds in

his daily work or occupation is his practical adjustment. The strenuous man proceeds more vigorously, and the high-minded man more ideally, trying to accomplish what seems the best to do, or attain, or be. This endeavour constitutes his working satisfaction; herein lies his spiritual freedom—his freedom to fulfil his nature, his release from fear, his actual adjustment with life and the eternal ways. . . . Our need of the best, and aspiration to win it, is a living and impelling truth with us, as it was with them. This, whatever else was valid, presents itself to us as the truth running through all the adjustments, the attained freedoms of these ancient men. This primal verity lies first in the need of the endeavor for the end of happiness and peace. It lies next in the endeavor itself. Who can say but that each great man, even in this endeavor, may have builded better than he knew, may have won his good, reached his peace, and gained perhaps the final truth for man? For ourselves, we have found no single answer to life's problem other than life itself, its need-inspired, forward-driving struggle, wherein endeavor is attainment and the path is the goal."

And yet—this is not the end of the philosophic quest. "Not Truth, but the earnest search for Truth," said Lessing; yet what were the search without the hope,—nay, the faith, that somewhere, hidden deep, mayhap, and only to be discovered through some new and laborious effort, there resided Truth in all her glorious beauty? "And yet with those ancient seers, as with our weakly faltering selves, the tensest fibre of the endeavor which is attainment, is the accompanying vision of a more absolute attainment beyond sheer endeavor—the hope for some of them and some of us of a divine and eternal verity of attainment standing as the cliff upon which the waves of our endeavor beat."

Verily, Mr. Taylor is one of that noble band who live in the eternities—in the eternities revealed in the soul of man at its highest. He is one with those who have beheld the sun, and manfully he returns to us gazing upon the fitting shadows, with a message of hope and inspiration, of peace and spiritual freedom—a gospel of Deliverance.

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JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. Sept.-Oct., 1919. *L'un, le multiple, et leurs rapports* (pp. 169-190): CH. DUNAN.—"Continuity is nothing more than the manifestation of the law of unity-multiplicity

in the total universe and in all its parts, and in consequence, the definitive justification of the nativistic method." *Habitude et troubles mentaux (spécialement dans certaines psychonévroses)* (pp. 191-256): ALBERT LECLÈRE.—The first part of this study concerns the extent of pure mechanism in normal "mentalisation," and the almost total reducibility of this mechanism to habit. The second part is devoted to the examination of the effects of the troubles of pure mechanism in the various kinds of pathological "mentalisation." *L'art et la religion* (pp. 256-296): CH. LIALO.—In the developmental study of the relations of art and religion "the dominant facts are the relative independence of the artistic and religious developments; the virtual presence of each in the primitive indifferentiation; their alliance or their proximity rather than their intimate combination in the successive phases of evolution." *L'imagination pure et la pensée scientifique* (pp. 297-321): J. SEGOND.—Intellectual imagination manifests itself in three forms; first, in a pure form as the symbolism which defines it, as in mathematics; second, as pursuing an implicit symbolism, following the latent analogy of heterogeneous and irreducible images through which it creates laws, as in experimental science; thirdly, the intellectual imagination is manifested in a symbolism which characterizes it essentially and appears in a graded form, a scale of qualities which is the basis of the comparative science of beings. *Analyses et Comptes rendus.* Gonzague Truc, *Le retour à la scolastique*: ETIENNE GILSON. Fr. P. Lumbreras, *De dubio methodico Cartesii*: ETIENNE GILSON. Hélène Metzger, *La genèse de la science des cristaux*: A. L. C. Seashore, *University of Iowa Studies in Psychology*: DR. JEAN PHILIPPE. *Revue des Périodiques.*

Carpenter, Edward. Pagan and Christian Creeds: Their Origin and Meaning. New York: Harcourt, Brace & Howe. 1920. Pp. 319.

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NOTES AND NEWS

A meeting of the Aristotelian Society was held on February 16, 1920, Miss Beatrice Edgell in the chair. Mr. Alexander F. Shand read a paper on "Impulse, Emotion, and Instinct." The paper is especially concerned with the relation of the primary emotions to the

instincts. It starts from the conclusion reached in Book II, Ch. I, of the author's *Foundations of Character*, that the emotions are not rightly regarded as essentially involved in the operation of instincts, and what are essentially involved are 'impulses'; the primary emotions being commonly aroused when there is delay or obstruction in the way of instincts,—though this is not the only cause of the excitement of emotions. If this be true, the question is, what is the difference between emotion and impulse, and what value has it? While under statistical analysis impulses bear a superficial resemblance to emotions—both containing the three fundamental elements, conation, feeling, cognition, common to all mental facts—the principal differences emphasized by the author center in the functions which impulses and emotions are severally destined to fulfil.

(1) The 'primary' impulses, like the instincts, of which they are a part, are exclusively concerned with biological ends: the 'primary' emotions, while still pursuing such ends, are not confined to them, because, in man at least, they acquire other ends.

(2) The primary emotions have more general ends than those of the primary impulses: thus the impulse connected with an instinct of concealment is to escape by means of concealment; but the end of the emotion of fear is to escape.

(3) The primary emotions have several instincts organized in their systems for use in different situations; the primary impulse is limited to the one instinct of which it is the impulse.

(4) Hence the primary emotion has a variability of behavior; the primary impulse an invariable type of behavior.

(5) The primary emotion has a superior form of organization to that of primary impulse.

Can we then regard the dispositions of the primary emotions as complex instincts? Like instincts they are hereditary structures; but they can not be identified with instincts because they possess a variability of behavior both in respect of their means and ends which distinguishes them from instincts. Can we even regard every instinct as having not merely some emotion to support it in difficulties, but an emotion which distinguishes it, vaguely or definitely, from all other instincts? This theory breaks down when applied to the web and nest-building instincts, and to the locomotory instincts of different animals, and to many others.

DR. CHRISTINE LADD-FRANKLIN recently lectured on the theory of color sensation before the Research Club of the Harvard Medical School.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

PHILOSOPHY AS THE ART OF AFFIXING LABELS¹

I BELIEVE that it was Robert Louis Stevenson who remarked that man does not live by bread alone; he lives in very large part by catchwords. These constitute the staff and support of the spiritual life of mankind. One could write an essay upon the great services they render to human society, dwelling upon their convenience and portability, the readiness with which they may be exchanged, the comfort and sustenance which they afford to the spirit, and the great deeds which they have inspired men to perform. Truly man does not live by bread alone!

Now feasting upon catchwords, fortunately or unfortunately, is not confined to the man on the street; the adherents of the schools are also much addicted to them. The philosophers are said to sustain themselves upon an especially husky and empty variety of such words, and in feeding upon them gradually to lose the capacity to enjoy other and more wholesome fare. Not only is this the case, but these philosophers of the schools seek to set themselves up as alone possessing the skill and the right to prepare the catchwords upon which the multitude shall live, for they esteem highly that which they themselves have made. But the multitude will have none of them, finding their words empty and bitter, and choose rather to live upon the smooth and succulent phrases which may be obtained at a small price in the common market-place.

It is not at this level, however, that a serious impeachment can be brought against philosophers. For they more than any other set of men can justly claim to have been awake to the fallacies that lie hidden in words and never to have ceased to warn against them. On the other hand, and largely as a result of philosophical analysis, it is impossible any longer to treat words with contempt as merely empty sounds. Words are born in the vital flowing of thoughts, and, as the organs through which thought secures articulation and definiteness, they are an organic part of the process itself. There are the two sides, the domination of words over the mind, and the

¹ Read at the meeting of the American Philosophical Association at Ithaca, December 30, 1919.

indispensable aid which they afford to the mind. The classical writings of philosophy are full of texts in illustration of these two forms of relationship. "Men believe that their reason governs words," says Bacon, "but it is also true that words react upon the understanding, and this it is that has rendered philosophy and the sciences sophistical and inactive." "The light of the mind is per-spicious words," says Hobbes, "by exact definitions first snuffed and purged from ambiguity." Philosophy is able to accept both these statements, and is perhaps beyond the point where it is likely to profit from external criticism. On the whole, I am inclined to think that the danger at present is that we shall attach too little rather than too much importance to our philosophical catchwords, if we call them such. Principle, *nous*, idea, substance, continuity, cause, God, ego, community; what a great price was paid for the gains summed up in these and similar words, and to what an extent they uphold the order of our world! If it is said that these terms are empty, one may fairly retort, "to him who brings nothing all things are empty." These words are indeed empty unless they have received a content through an effort to realize in ourselves the experiences they sum up. No effort of mere technical definition can put meaning and life into them.

While then philosophers are abundantly able, by considerations such as those mentioned, to meet the superficial criticisms leveled against them from the outside, they nevertheless feel the peril of the undertaking in which they are engaged, knowing well that all great things are as rare as they are difficult. As philosophers there is an ever recurring need of defining our aims and of examining our results, in order to free the mind from idols and to see as clearly as possible both the goal at which we are aiming and the formalistic motives which tend to draw our minds away from it. The points upon which I shall touch are all familiar, and I shall confine myself mainly to suggesting their applicability to the present situation in philosophy. I should like to have what I say taken as an indication of a personal conviction, rather than as an attempt to deal systematically with the underlying philosophical problems.

In the first place, I have come gradually to think more of philosophy as representing an attitude of mind and a level of experience, and less of it as a "subject" or "science" composed of a body of propositions to be taught and learned. One gets increasingly the impression that the great masters, from Plato on, are not dominated by the interests of "schools," but keep close to the literal ideal of philosophy as love of wisdom, and effort after insight. It is of course true that all the great philosophers emphasize that phi-

losophy is a method, a "way" of procedure, but this is not something secondary to be imposed upon life from the outside for the sake of establishing certain abstract generalizations, but just a bringing to consciousness of the principles that are already implicit in experience, and which become evident through its own power of immanent criticism. That concrete way of the mind is dialectic.

As opposed to this we have eristic, which is the art of fighting with words.

*"Mit Worten lässt sich trefflich streiten,
Mit Worten ein System bereiten."*

There is surely a danger when philosophy is made formal and is cultivated exclusively by schoolmen. That is why I urged at the founding of this Association the desirability of cooperation on a different basis than that of the professional occupation of many of its members.

Secondly, I think we are following a false analogy when we seek to assimilate philosophical inquiry to that of the special sciences, and to require from philosophy the same form of practical application and of definitely marked progress that the latter are supposed to exhibit. I do not mean that philosophy has nothing to learn from the special sciences or that it is able to proceed by ignoring the results that they obtain. But each form of inquiry must do its own work, and this can not be achieved by attempts to set up philosophy as a "science" and to demand of it the form of result that the other sciences yield. It is certainly justifiable to demand that philosophy shall be useful, but its use can never consist in supplying new "facts" or in providing definite rules of action, but just in vitalizing the whole of experience by bringing to consciousness the fundamental relations upon which it rests. I can not help thinking, then, that the complaint, which I have sometimes heard even within the philosophical camp, that the subject is lacking in applications, rests upon a confusion of ideas, and that this confusion is largely due to a failure to distinguish clearly between the aim of science and that of philosophy. The same is true in principle of the ever-recurring complaint regarding the unprogressive character of philosophy.

Thirdly, philosophy seems to me to fall short of its true influence and interest through a failure to realize clearly that its judgments must finally assume a categorical form and bring us to what is individual and concrete. In general, science takes the opposite way: its main interest is in analysis, and its constructions take the form of a system of carefully defined generalized concepts that serve the purposes of calculation and prediction, but for the

time seem to be indifferent to the nature of concrete reality. Now the great practical success of this method has too frequently led to the overlooking of its limitations, and to the assumption that its principles represent the completed form of logical procedure. When this assumption is accepted, one of two courses is logically open to philosophy. It may apply as best it can the method of analysis and classification in terms of some general aspect to the objects that make up its subject matter; or, secondly, it may abandon all claim to logic and appeal for its results to intuition or to faith, or some alogical form of experiencing. These, as I have said, are the logical alternatives; but in practise it is usual to mingle the two methods judiciously, to proceed for the most part and in ordinary situations by way of clear and distinct classifications, and to carry the appeal to the higher court of irrationalism only when the issues seem to be particularly grave and important.

The first logical alternative was accepted with great enthusiasm by the philosophers of the eighteenth-century enlightenment. It was during this period that philosophy as the art of affixing labels attained its greatest perfection. All mysteries were abolished by reducing every form of reality to a generalized type, defined in quite perspicuous terms. But just for this very reason, the concrete nature of individuals was hidden from these times. The literature of the century presents us with "types," the philosophical writers construct the mind out of generalized conceptions of "impressions" and "simple ideas of reflection," or on the practical side, in terms of "ambition," "self-love," "benevolence" or reason.² This is all an old story; but what I wish to suggest is that the rationalistic ideals of this former time still tend to give the direction to our philosophizing. That is, we tend to set before ourselves definition and formal demonstration as the goal, and to suppose that philosophy consists in classification and characterization. Thus we undertake to define the Ego, and Consciousness, and Value; thus we classify the historical systems of philosophy under various rubrics like Materialism, Pantheism, Personalism, with something of the feeling that when they are once labeled they are out of our hands and ready to ship.

I have spoken as if in this classificatory procedure philosophy were adopting the procedure of the sciences. That is not quite true. All genuine science goes beyond abstract classification and contains an element that is categorical. A careful analysis of scientific procedure, such as that given for example in Mr. Bosanquet's *Logic*, brings out the fact that the mind throughout this process is

² Cf. G. H. Sabine, "Hume's Contribution to the Historical Method," *Philos. Review*, Vol. XV. (1906), pp. 31 ff.

always returning to what is concretely real. Even when following the systematic connection of generalized contents, the mind is also working out the structure of a concrete individuality: scientific analysis, when taken in its full compass, is seen to disclose to the mind a compelling form of categorical synthesis. Now I wish to point out that a philosophy which attempts to imitate the procedure of the sciences is likely to realize the abstract and hypothetical side of scientific method, without the saving element of directness and concreteness. As external reflection, it assumes the object as once for all given in the generalized concept from which it sets out, and accordingly does not feel the necessity of returning to the concrete to transform and vitalize its abstractions. This point calls for more extended treatment than can here be given to it; but what has been said may serve to explain why the generalizations of a philosophy of this type are thinner and less significant than those of the special sciences.

The abstractions in which philosophical reflection frequently issues are those of a logic which presupposes a mechanical separation between the minds and its objects. The world, or that portion of it which occupies our thought at any time, is taken as a fixed datum. Thought plays upon this from the outside, distinguishing and naming its qualities and aspects in terms of general predicates. It moves round and round it, but is never able to break its hard crust and genuinely interpenetrate it. The relation between thought and its objects is and remains forever external. Thought is one independent entity, the object is also an independent entity; one does not need the other in order to complete it.

The sequel to this logical theory is inevitable. If thinking can not lead us to reality in its concreteness, we must call upon some other power of the mind to bring about this result. Feeling, or immediate intuition, must effect what is impossible for logic. So for lack, as I believe, of an adequate logic of the thinking mind in its wholeness, we find distinguished writers of the present day appealing to a form of experience that lies beyond thought. I quote a few sentences from the last paragraphs of Professor James Ward's *Naturalism and Agnosticism*, for which a parallel might easily be found in many other modern writers. "This incommensurability of the necessary and the contingent, the scientific and the historical, answers to the difference between validity and reality, and shows at the same time that 'reality is richer than thought.' Thought gives us only 'science,' not existence; we can not, by piling up propositions, secure the simplest 'position'. Thought, again, gives us only the 'universal,' the relational. From the particular, which is the 'surd' for it . . . it must start, but to this particular it

can never return save by traversing an interminable series" (Vol. II., p. 282).

I can not now undertake to state fully the reasons why I think such a conclusion unsatisfactory. It is perhaps enough at present to say that it fails because it does not accept the view of the mind in its wholeness as in principle adequate to its work. This, I take it, is the principle on which all the great classical systems of philosophy are based. We are not then obliged to accept such an account of thought as that given by Professor Ward, because there is already in existence a logic more adequate to the process of living experience which we may fairly claim to be the proper logic of philosophy, since it is expressed and illustrated in the writings of its greatest historical representatives. That is the logic of the concrete universal or individual whole.

If it is the task of philosophy to render reality intelligible, and if reality is ultimately a system of individuals, not of abstract qualities or essences, it would seem to follow that the hope of progress in philosophy must consist in adopting and applying this method. It is essential to be quite clear as to what we really have a right to demand from philosophy, as to the form of comprehensibility which we may legitimately expect. In some of our discussions of late, it seems to me that there has been set up as the goal of philosophy something which can never be realized in concrete knowledge. This is the attainment of a highest generalization, the most abstract label, under which everything can be brought and in terms of which it may be defined. Now I think that for philosophy this alluring prospect is nothing better than mirage, and if we would make progress we must turn our back upon it. I shall try to indicate very briefly the direction in which philosophy must look if it is to find its real mission.

In attempting to interpret reality philosophy seeks to understand individual natures and individual relationships, and so on one side it is a return from the generalizations of science to the standpoint of common-sense. Philosophy is, however, a direct and natural point of view which has been enriched and rendered coherent by an analysis that has given to it a consciousness of its own principles; it is an immediacy which has absorbed the results of mediation. Let it be again emphasized, however, that philosophy is not an abstract science, but is a level of life in which we return from analysis and generalization to a direct seeing of things in their concreteness. Pater remarks that for Plato the ideas which form the ultimate object of the mind's quest tend to be thought of as concrete individual things, almost as persons, to be known and loved. The rationality that philosophy seeks must be

of the kind that applies to individuals and forms of individuality. Philosophical insight has as its ideal the type of perfect understanding that arises as a result of long usage between members of an intimate circle of friends. Thus philosophy should help us to feel at home in our world as we feel at home in our family. If it can contribute to this kind understanding that is all which we have any right to demand.

This conception of philosophical rationality is of course as far as possible removed from the ideal of bringing everything under one highest generalization. It seems to me very important that philosophy should disclaim "this false pretense of knowledge" and realize that the wisdom which is its mission to seek can not consist of general formulas in regard to types or typical forms of relationship, though it may very well find suggestion and instruction in such formulas.

It seems worth while dwelling upon some of the consequences which the more concrete view of philosophy carries with it. Where philosophy derives its ideals of comprehensibility from the special sciences, it is likely to look forward also to some conception or formula which will enable it to make or to transform its world. Pragmatism, we may say, is the natural corollary of this point of view. But the logic of the concrete universal yields no such practical rule of action. For it, the first mark of reason consists in the acceptance of the universe. We may recall Lotze's fine saying that it is not the business of philosophy to explain how the world is made, or why there should be a world at all, but to seek to understand the actual world of which we find ourselves a part. That is surely enough! I confess to thinking that some of the so-called philosophical problems that have occupied our generation are pseudo-problems, generated by an overstrained and artificial logic, not by any genuine demands of reason. We are not called on to make a world, or to fashion it after our heart's desire, but to accept and understand it. Reason implies the acceptance of restraint, the recognition of an order and constitution of the world which, after all our analyses and definitions, has just to be accepted thankfully and loved—for better or for worse. It is the only world we have!

Once more, however, it seems necessary to insist that the rejection of the logic of abstract generalization as final does not imply that philosophy is to abandon logical method, or that it can follow any "primrose path" where exact analysis is no longer necessary. But it does imply that analysis is now to become an instrument rather than an end, and that its results are to be interpreted in terms of

the nature and relations of concrete individual wholes. What has no bearing upon human life and experience, a hypothetical problem which has no possible concrete reference, is not a legitimate problem for a sane man. Of course in actual practise one has to learn the importance of being patient with analyses even when they appear to deal with situations that have been abstractly defined, or are stated in terms that are artificially ingenious. But if these are to be justified as necessary phases of philosophical thinking, the abstractions finally must be restored and the results evaluated in terms of their bearing upon the facts of concrete experience.

The central problem of philosophy, then, which must be kept fundamental and determining, is that of attaining the most complete and satisfactory level of experience. We are misled by a false ideal when we attempt to substitute for this concrete demand of the mind as a whole the demand of an isolated phase of the mind for a special form of solution. What philosophy is concerned with is the life and solidarity of the whole. Nettleship in his lectures on Logic quotes a sentence from Novalis, to which several other writers have since called attention: "*Philosophiren ist dephlegmatisiren, vivificiren.*" To philosophize is to get rid of the mind's phlegm, to vitalize experience by raising it to a higher power. It is to forsake the letter for the spirit, or rather to discover the spirit in the letter. The notion that thought or theory carries us away from the real is hard to eradicate, because, as we have seen, it supports itself on the view that thinking is nothing but abstract generalization. But generalization, when it represents serious thinking, is also a process of defining and bringing to light the nature of individuality. "Generalization," writes Pater, "whatever Platonists, or Plato himself at mistaken moments, may have to say about it, is a method, not of obliterating the concrete phenomenon, but of enriching it with the joint perspective, the significance, the expressiveness, of all other things besides." That is true, but only when the generalization is the expression of thinking that goes beyond bare identity and retains within itself the life of the differences and distinctions of the concrete objects of experience. Then it does not carry us away to a gray world of shadows, but endows the particular objects of experience with new life and individuality.

Thus the process of thought is not something outside of or apart from the process of experience, but is the moving force and spirit of the whole. The logic of philosophy accordingly is just the principles at work in experience and which carry it on towards concretion and individuation. And this, as we have seen, means that reality is not something given once for all, but something to be dis-

covered in the process of thought. Thinking is the quest for true reality, not comfortable reflection about an assured possession. Yet it is also true that from the beginning there is possession; the real is not merely something that is-to-be; here and now is our absolute, but it is also a promised land, whose riches we have not yet exhausted.

To philosophize, then, is nothing more strange and recondite than, in Bacon's phrase, "to use our utmost endeavor toward restoring and cultivating a just and legitimate familiarity betwixt the mind and things." It is not external reflection upon an object alien to the mind, lying isolated and motionless and not itself caught up in the moving web of the life of thought. And from this it follows that its ultimate aim is not to classify objects under abstract categories, but to construct an orderly world in terms of the relations of concrete individuals. That is to say, its procedure is not in the direction of abstract generalization, but towards the discovery of concrete individual wholes, existing as members of a world or cosmos which is itself a concrete whole. In this we have the fundamental distinction between the philosophical form of comprehensibility and that at which the sciences aim, so long at least as we think of scientific analysis as interested only in supplying instruments of practise. The scientist, as such, is likely to find the significance of his thinking only in the series of correlations between universals that his analysis has brought to light; he does not usually notice that the process has yielded a synthetic result, that through it the form and structure of an individual whole has been brought to light. Now it is just in holding fast to the synthetic results of thought that philosophy returns to what is individual and concrete. Its goal is the synoptic vision, seeing things whole.

But it may be asked what is the form and principle of this wholeness? It is not something chaotic or capricious, for it is the outcome of analysis and definition, or rather of a synthesis into which analysis has entered as a defining factor. Nor does it exist in the form of a series of abstract qualities, for this is pure externality and negativity, and in itself incapable of completeness. But its order is that of a many-sided and systematic relation between real beings whose place and functions are revealed and made intelligible through the experimental life that is reason. It is insight into this order that we demand from philosophy; not formal proofs, but the raising of our experience to a higher level of insight so that we shall find more and more confirmed in detail the postulate of all rational life, "the unity of the mind with the whole of nature."

J. E. CREIGHTON.

A VIA MEDIA BETWEEN REALISM AND IDEALISM

IT is evident that the various schools of modern philosophy are drawing together. As of old they point out each other's defects, but recent criticism has also sought to base constructive arguments on premises which they hold in common. It is along such lines and as the result of such critical construction that progress is to be made. For this reason N. O. Lossky's *The Intuitive Basis of Knowledge*¹ is more important than its definite results would indicate. From this point of view it is worth while to examine carefully its contribution.

As a counterpoise to the system building of the absolute idealism of the nineteenth century, a critical study of the problems of knowledge has in recent years called a halt in such systematic criticism. Our metaphysics must for a while wait upon our epistemology. Lossky therefore considers the recent developments, beginning before Kant, as a study in critical epistemology. Realism and idealism, each in varying forms, differ fundamentally not so much in metaphysics as in epistemology. This is the impression that Lossky gives, though there is no direct statement to that effect. He therefore attempts to meet realism by a careful examination of its theory of knowledge. Its view, logically developed, would lead to the view he presents. He considers that realism is right in its insistence on the reality of the object (so I understand him). Idealism also is right in its insistence on the real connection of subject and object. His statements are rather idealistic than realistic, and his sympathies are evidently with idealism, but he does make the attempt to meet the demands of both. "The known object," he says (p. 225), "is immanent in the process of cognition; reality itself, life itself, is present in and experienced through the act of knowing." He continues by saying that knowledge is a discrimination by comparison of the real world. It is true that there is always something left undiscriminated, so there is a residue not known. What is known and what is left unknown evidently differ not at all in essence. Thus Lossky pays his respects to realism. He goes even further when he says (p. 245), "The structure of knowledge, *i.e.*, the structure of judgment, does not in any way determine whether relations or things will be known in the judgment." The structure of knowledge does not determine its content. He is also naturally, as an idealist, aware of the balancing factor. He says (p. 228) that we are immediately aware of

¹ N. O. LOSSKY: *The Intuitive Basis of Knowledge*. Trans. by N. A. Duddington. London: Macmillan Co. 1919. Pp. xxix + 420.

control (subjectivity) and of opposition (objectivity). These two relations are not exterior to man, nor, it would seem, to the object controlled or opposing. He goes even further when he asserts (p. 254) that "only that is real which ought to be judged as existing." The close connection of reality and knowledge he also believes necessary in forming a criterion for truth; cf. "the presence of reality in knowledge the supreme test of truth" (p. 388). He opposes his theory to all empiricism or rationalism or critical theories which isolate the knower from the known. We may conclude this summary with his statement (p. 404), "The entire content of knowledge is composed of elements of the real world."

So far, Lossky's distinctive view is almost entirely a matter of careful statement. The things for which he contends are the essentials in any valid and effective theory of knowledge. They are therefore common to any constructive theory, either realistic or idealistic. The real difficulty still remains: how can real objects enter into a real relation of being known? This is the crux of present-day realism. Upon this the realists are working, but the solution is not yet agreed upon. In the stress of the conflict against the all-overshadowing power of the relation of knowledge, the realists have not sought to vindicate the reality of any relations which enter into knowledge. This for the idealist is the worst kind of heresy. Whatever else may be questioned, knowledge is real, and gives or warrants the giving of the accolade of reality to its contents. Here as before Lossky stands on middle ground. He does not ignore the problem as do many of both opposing camps, but presents his own solution. This solution is his theory of the intuitive basis of knowledge. Intuition, he says (p. 326), is of significance for induction beyond what has been recognized. We have, he further asserts (p. 414), to construct a theory of knowledge without falling back on the presuppositions, and without using the premises of the special sciences. He favors (p. 375) the "immediate perception of necessary relations." He says that the ability to generalize from a single instance argues in favor of this intuition (p. 335). Relations are thus—to import the word into Lossky's presentation—immediately and subjectively known. They are thus at least as real as the things they relate, and these things are not real except through the intuition of these relations to the knowing subject. With Lossky realism has thus scored at least this, that he feels the need of proving and not merely asserting the reality of relations. In doing this, and analyzing the knowledge of relations, Lossky has presented a somewhat new view of the process of judgment and knowledge. It is neither pragmatic nor behavioristic, and deserves more careful study.

The work of Lossky is directed at the weak point in realism. It is all very well to vindicate the reality of things apart from relations, but, if they are too independent, the relations have no necessary relation to the things related, and no sure reality. If reality is something that marks out "things," and relations are neither necessary to things nor things to relations, then relations have not that same attribute. Relations are not real. Unless, indeed, relations are themselves but things, entirely objective. Toward this, though they do not admit it, realists tend. Yet this backhanded conferring of reality upon relations does not serve their real purpose. If relations are things, real because possessing a certain kind of objectivity, how have they any power to make the things related known to a subject? The problem of knowledge is, then, but become the problem of how relations enter into knowledge and are known. To this problem Lossky gives importance. His solution, however, is not that of realism. For him relations are not objects, but are part of the subjective world. Yet they are not the same as the knowing mind. The relation between knower and known is not constituted by the knower. Relations, as not under control, may themselves be objective. Here it is evident that Lossky attempts the merging of the two concepts, subject and object, and the reduction of the dualism of practically all current epistemology to a monism. Though by what name we are to call the resulting reality he nowhere says. From this "metaphysics" he turns aside.

For the moment leaving to one side, as does Lossky, the metaphysics of this solution, it is only fair to consider the promise he holds out for our theories of knowledge. This promise is that by his theory reality is plainly shown as an integral part of the world of knowledge. Relations are real, and are known immediately. Hence so far reality enters immediately into knowledge. Relations, as a part of the real world, bring with them their connections and content. Relations are known as relating things. Hence the things come necessarily into consciousness. Since the things related are a necessary part of the reality of the relations, the connection of the knower and the things known is a necessary connection. Yet we have not made the things known dependent on the knower. Whether we have also preserved the externality of relations is another question which we shall hold in reserve.

There is a promise also for our logic. Since the relations which are known are relations in the objective real world, immediate knowledge of those relations gives immediate knowledge of that exterior world of relations. Induction from relations correctly perceived and immediately known is just as valid, perhaps more valid, than

relations known only mediately by deduction. This is disregarding, as Lossky urges, the premises and methods of the separate sciences and is a partial return to naïve and primitive experimentation. Again we have to reserve a question. It is valuable, however, whatever be the answer to our later question, that the effort is consciously made to vindicate induction, which in the traditional logic rests under a decided cloud of inferiority. The progress of the separate sciences, though Lossky rather scorns this approach, should have turned the attention of logicians long since to this untilled and neglected garden. This much we can agree to, that knowledge is neither simply of things nor of concepts, but of relations between things as well. These relations it is the province of induction and science to study. Lossky offers us a possible method for this study, and it is a method not dependent on the premises of any one of the separate sciences.

The fundamental defect of Lossky's view prevents us from at once accepting his construction as the sought for *via media*. This defect is not found in his treatment of any of the problems which we reserved for later discussion. These enter into the difficulty, but the main defect is more fundamental. Any knowledge that is vital, that is "real," is the knowledge possessed by a real being. It is a relation between two components of reality. I, who exist and am real, know the floor under my feet, which exists and is real. Any definition of reality must be large enough to include both knower and known. Both knower and known being in the real world, any vital relation between them is also real. Were it not real, it would not be vital or essentially a part of the same world. Here the pragmatic aspect enters, for any relation which is not vital is of little concern. Man as we know him needs knowledge of the objects beyond and outside of his own body in order to be what he is. His relations to those objects are therefore essential to him, and are part of the real world. It is this consideration which seems to find no place in Lossky's presentation.

It is probably this omission which has shut his eyes to the necessity of explaining how relations can be both subject and object, both active and passive. For him, since the relation "is known," it is not the subject. It is the object of knowledge. Intuitively known though it is, it is yet known, and therefore an object of knowledge. The consistent idealist, for whom relations are subjective, has no difficulty. They are not the objects but the means of knowledge. The realist is also in this point consistent. For relations are not active, not constitutive, therefore they can perfectly well be objects and passive. For Lossky this ignored problem should have loomed

large. It is possible to define an aspect of activity which shall be objective, but this has not been done. Until it is, this real something, uniting immediately with subjective activity, yet objective; resisting control, and passive; and an object of knowledge; must remain very nebulous. It is the crux of the controversy between idealism and realism, and we can not so easily build the bridge over the chasm.

It is also to the ignoring of the reality of the knower that the next defect in the presentation is due. If relations are intuitively known, part of the active subjective side of life, how are they external to the knower? Unless they are external to the knower, then we have only a slightly new form of the old idealism. Either the relations, if they are not external, must actively bring into existence a relation that vitally and really constitutes the object as known, or else the knower is forever cut off from the thing-in-itself. The theory of intuitive perception must be much further analyzed if it is to be effective. It must be shown that the relations can themselves enter immediately into consciousness and yet preserve their externality to the active focus of that consciousness. The theory of knowledge can not be developed without a careful analysis of the concept of consciousness. Epistemology can not stand as the single stone on which all philosophical construction is reared. It is but one of several stones, and a theory must rest on a broader foundation.

Finally there is a defect which runs all through Lossky's work. It warps his view many times. This is his depreciation of metaphysics. We all can sympathize with his disdain for a wrong metaphysics, but that should urge us on to formulate a correct metaphysics. This Lossky does not do. The defects we have just been considering might have been avoided had Lossky taken into account the wider aspects of his view. What it means for the knower to be in immediate contact with reality, as he is in Lossky's view, is not developed. Just what is reality is also left vague. A reality that can be both active and passive, both mental and material, or enter into both spheres, needs adequate definition. Ontology can not so lightly be displaced. What part knowledge plays in the full life is also not adequately considered. Whether reality may not be known in other ways than by knowledge is not answered. For many, "mystical knowledge" is not of the same type as ordinary knowledge, nor that which is "known" real as the material world is real. Is Lossky's immediate perception mystical or materialistic? To these questions only a metaphysics can give at all adequate answers, or even approach a solution.

We have noted the defects. It will perhaps not be so easy to

correct them. Any detailed correction is beyond our purpose, but we can try to indicate the line along which correction is possible. One point in the analysis of the act of knowledge Lossky did not emphasize. Even if we know some relations immediately, not all relations are thereby known. Nor is there in this any proof that all relations can be so known. Those that are known, or validly inferred to exist, by other methods than immediate knowledge, are of course external to the knower. Whether these relations can be conceivably all immediately known would be a very debatable question. Certainly we can not assume it. Yet knowledge is a relation. Any study of the reality of relations must therefore include both mediate and immediately known relations. The reality of relations must be so defined that it does not depend on immediate knowledge. So far the realist must have his way in correcting Lossky's view. On the other hand, some relations, if we accept his view, are immediately known. Our definition of reality must include this case. Not all relations are objective. Yet they are real relations, and the stone which I throw into the water is now in the water just because it was so related to me that by my perception of it I determined to throw it. My knowledge of its existence did make a difference to it. All this may be explained in behavioristic terms, but the facts are not altered. By its relation to me, which relation we call knowledge, the stone is not now where it was before. This relation, which is active, is subjective, is immediately known. This activity of the immediately known relations needs to be stressed more than Lossky has done, in order that the problem may be more clearly presented. If his view is to be a real *via media*, both elements must be at their strongest.

Further, Lossky has not, that I remember, pointed out that relations as known are not constitutive of reality. Though entering directly into mental life, they are there not as subject but as object. As something I know, they are objects of knowledge. As such, they are not constitutive of that knowledge. So far again the realist is justified. Yet once more we need to point out that these relations are necessarily involved in the real world. They are external, in a sense, to us, but not to the material objects they relate. These relations are part of that objective world, rather than, as Lossky at times tends to consider them, part of the subjective realm. Yet, as before, the idealist must have his innings. These relations are known as active. They are not mere shorthand for some mysterious grouping of separate things-in-themselves. They, these objectively-known relations, are what form material systems. They are the significant part of reality, the "meaning" of things, as Royce used to say. The

dog goes after the stick I throw because I throw it. The other sticks on the ground he passes by. It is the relation to me that is significant. There is a grave question whether we should not call this significant relation the real thing. The material of the stick is of less importance. By stressing this aspect of his objectively known relations, Lossky's view would open up a useful course in the bringing together of behaviorism and idealism.

One further correction remains. Lossky has not clearly pointed out just what kind of a relation knowledge is. When this is done, the whole subject will be made much clearer. While there is something in common between all relations, all schools of thought have been too ready to take one kind of relation as significant of the whole without looking into the matter carefully enough. The crux of the matter is just the point in dispute between idealism and realism. The discussion has gone too far afield in seeking to establish the externality of all relations, or the "meaning" of all existence. What the epistemologist is concerned with is not all relations nor all existence, but that existence which is known. This relation is significant for the existences related. Yet it is not constitutive of either. In other words, it is not this relation which explains their existence, but only their connection. It is knowledge which united them. It is not knowledge which creates them. This union may be the result of some other relation, but that is not the concern of the theory of knowledge. Lossky has acted on this principle, but has not stated it explicitly. With this correction it is possible to make further progress along our *via media*.

The value for philosophy of Lossky's work lies just in that field which he disregards. It is the metaphysical construction which the correction and adoption of his view makes possible that is of most significance. In the first place, he has made possible a new approach to a unified outlook on existence. Since the rise of modern psychological analysis, the seemingly inherent dualism in knowledge has for most thinkers made impossible the presentation of the world as a unit. Knower and known, mental and material, subject and object have seemed to be irreconcilably on opposite sides of life. To develop Lossky's view of relations, a something which is object yet subject, known yet immediately part of the knower, we have crossed the divide and the promised land lies open before us. It is not yet attained, however, and much new construction and analysis must precede our entering into possession. For this task the metaphysician may well build upon Lossky's work.

One other barrier Lossky has demolished. The world of matter, with its relations and activity, is a world we can really know and

not merely symbolize. By entering into immediate connection with it we deal with reality and know what we are doing. A way has at last been found to Kant's things-in-themselves. I realize that all these results are not yet attained and that it will take more than Lossky's work to make the result sure, but the way has been blazed, and forward movement is possible.

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REVIEWS AND ABSTRACTS OF LITERATURE

Ueber den Einfluss von optischem oder akustischem Reiz und grammatikalischer Form des Reizwortes auf dem Assoziationsvorang.

HANS HUBER. *Journ. f. Psychol. u. Neurol.*, 1918, Vol. 23, pp. 171-207.

This study is in the main directed at two questions. The first concerns the difference to be found in free association results according to whether the stimulus word has been visually or auditorily presented. The second concerns the difference to be found between the usual heterogeneous list of stimulus words, and a homogeneous one consisting of two-syllable substantives. It will be noted that this latter feature is among those involved in the important study published by Loring.¹

Jung's well-known word list, which is heterogeneous, is compared with a two-syllable substantive word list known as the Aschaffenburg-Maier. The first half of each list is used for the visual, the second for the auditory presentation. There are 50 subjects, 23 men and 27 women; 3 "educated" normal, 28 "uneducated" normal, 19 under various diagnoses of mental disease. Each experiment is repeated, for examination of errors in "reproduction." The entire material consists of 19,900 original associations, and the same number of associations in the reproduction series. Timing was with the stopwatch, started on the accented syllable of the stimulus word.²

¹ Loring, M. W., "Methods of studying controlled word associations," *Psychobiology*, 1918, Vol. 1, pp. 369-428.

² Dunlap (*Psychobiology*, 1917, Vol. I, pp. 171-175), has made a significant comparison of the stopwatch and chronoscope methods in timing. For example, thirteen stopwatch readings of 1,200 σ varied from 940 σ to 1,300 σ by the chronoscope. Ten stopwatch readings of 1,000 σ varied between 752 σ and 1,310 σ by the chronoscope. The averages of the chronoscope readings differ from the stopwatch readings from practically zero to nearly 400 σ , the chronoscope readings being uniformly shorter. The persons who made the experiments had not, apparently, had special practise in this use of the stopwatch; Dunlap believes that reaction habits for relatively constant period are set up whose effect would be heightened with practise.

Results of the more general interest concern the reaction time, the failures of reproduction, and the incidence of "complex" reactions.³ The great significance attached by earlier psychoanalytic writers to the association time is criticized as an exaggeration.

The central tendency of all reaction times in normal individuals is 2.2 seconds, somewhat longer than Jung's finding, but practically the same as that which the reviewer has observed. The already observed group difference between women and men is again reported, but it is a group difference only. Pathological cases are considerably slower. Except in the best educated subjects, visual presentation has a retarding influence on the associative process.

In the reproduction experiment the subject is requested to respond with the same word as before, but if the previous response does not come immediately, to respond freely as in the regular ex-

The reviewer, who has recorded something over 16,000 free associations with the stopwatch, would assign to an individual association time thus taken, a probable error of one scale division, 200σ . This is about the average amount of difference between the stopwatch and chronoscope readings reported in Dunlap's Table 2 (194 σ). It is well to have thus emphasized that differences of this order are without significance in the comparison of individual stopwatch times. On the other hand considerable work with the free association time does not involve such comparisons, but rather very much greater differences in time, or distribution forms and central tendencies in series of 50 reactions or more; under which conditions the objections to the stopwatch are materially lessened.

Dunlap's observations should discourage the use of the stopwatch for controlled association work, and lead those using it otherwise to increased care with it. It should not limit the use or development of the free association method to the rather particular circumstances where chronoscopic technique is available. The question is raised of how the association type is affected under the more artificial conditions of voice-key technique. It would be reasonable to expect a certain "flattening" of the responses, similar to that attributed in Huber's study to the influence of visual exposure.

³ The presentation of results is complicated as follows: The text states and rationalizes or interprets certain comparisons between the Jung and the Aschaffenburg-Maier word-lists. The statistical tables given at the end of the article run counter to these statements, attributing Aschaffenburg-Maier properties to the Jung, and vice versa. The following quotations are consistent with the figures here given, but inconsistent with the statistical tables at the end of the article. "*Männer reagieren also rascher nach dem Jung'schen Schema, das weibliche Geschlecht un ein geringeres rascher nach dem Einheitschema*" (p. 178, line 21). "*Das gemischte Schema nach Jung bringt nach unserer Durchschnittsberechnung 25.7%, das einheitliche nach Aschaffenburg-Maier nur 18.1%*" (p. 179, line 20; cf. also p. 196, line 17). *Die Anzahl der mit dem Jung'schen Schema gewonnenen Komplexreaktionen vergleicht mit den Resultaten des Aschaffenburg-Maierschen Schemas, 10.7% gegen 7.0%* (p. 183, line 6; cf. also line 30, and p. 196, line 23). What seems most probable is that the Jung and Aschaffenburg-Maier headings to the statistical tables were confused in some way. Further examination of the tables indicating other discrepancies, the present review is based upon the text alone.

periment. For the entire material the percentage of failures in reproduction is 21.9, with the women averaging slightly fewer. Educated subjects show fewest, pathological the most. Visual and auditory presentation give similar results in this respect.

Record is made of reactions in which the subject gave evidence, either spontaneously or in response to questioning, of special affective "complexes." The author's remarks on the relation of these to the association test are among the most-worth while portions of the study, critical and suggestive (pp. 180-181). Of the responses 8.8 per cent. were found associated with complexes, central tendencies being slightly higher for the women (in contrast to their fewer failures in reproduction), slightly higher also for the educated. This percentage is of course highest in the pathological material. Visual and vocal percentages are similar, contraindicating, in Huber's judgment, special influence of the examiner's personality on the results.

The responses are classified by a simplification of the Jung-Riklin schedule, which separates inner associations, outer associations, sound associations and a residual group. The general average of inner associations is 73 per cent. There appears no sex difference, or difference according to education, but it is remarked that the educational level of the "uneducated" subjects was above the average. The number of inner associations is substantially unaffected by auditory or visual presentation, though there are slightly more with the auditory in the uneducated; it is thought that the greater mental effort required for them in reading operates to "flatten" the responses. The Aschaffenburg-Maier list shows somewhat more inner associations than the Jung, in harmony with its consisting of nouns, which offer the most fertile field for such associations.

The number of outer associations is similar in men and women, about 19 per cent. As already indicated, they are slightly more frequent with visual presentation, and in the Jung list. Sound associations are considerably more frequent in men—attributed to their lesser affective reaction to the experiment. They are slightly more frequent with the visual presentation. The Jung list produces twice as many sound reactions as the Aschaffenburg-Maier.

The residual group is made up of various infrequent forms of response, of which the "egocentric" (Jung's definition) number two-thirds. The greatest number is found in the pathological group with 10.6 per cent., compared with 6.4 per cent. as the general average. The egocentric responses themselves number 9.1 per cent. of the pathological, 2.3 per cent. of the educated, 1.1 per cent. of the uneducated responses. There are twice as many among the normal men as among the women, but in the pathological cases, something

over twice as many among the women as in the men. Jung also found fewer egocentric reactions among normal women, and thought it due to a greater repression towards the experimenter. The present material bears this out in so far as one may regard the psychosis as removing repressions of this level.

Classification is made of the responses according to parts of speech. Forty-seven per cent. of the men's responses are substantives, and 38 per cent. of the women's; which the author believes to again point to an excess of critical repression among the latter. There are slightly more with the visual presentation. The Jung and Aschaffenburg-Maier lists are nearly the same. Adjectival responses occur to the extent of 32 per cent. in the men and 29 per cent. in the women, 42 per cent. in the educated and 26 per cent. in the uneducated; there are fewer adjectival responses in the visual experiment and somewhat more in the Aschaffenburg-Maier word list.

Women respond in 19.2 per cent., men in 14.6 per cent. with verbs, a difference which is determined by the Aschaffenburg-Maier word-list. This is again regarded as an expression of the women's more intense reaction to the experiment. The three educated subjects average only slightly over 4 per cent. of reactions with verbs. Adverbs and interjections are favored by the women, also by the Jung word list. Five times as many sentences (or phrases?) are produced by the women as by the men. This tendency is lessened in visual presentation. The two word-lists here show no significant difference. The following is the reviewer's synopsis of this material:

| <i>Associations</i> | <i>Educated (as Compared with Uneducated)</i> | <i>Men (as Compared with Women)</i> | <i>Jung Word-list (as Compared with the Aschaffenburg-Maier)</i> | <i>Visual Stimulus (as Compared with Auditory)</i> |
|--------------------------------------|---|--|--|--|
| <i>Inner</i> | Similar | Similar (72.7%) | Fewer | Somewhat fewer except in educated group |
| <i>Outer</i> | Similar | Similar (19.4%) | Slightly more | Slightly more |
| <i>Sound</i> | More (also in pathol. cases) | Much more | Twice as many | Slightly more |
| <i>Egocentric</i> | Twice as many | Normal, twice as many, pathol., less than half as many | More | Nothing significant |
| <i>Substantive</i> | More (much fewer in pathol. cases) | 46.7% to 37.8% | Similar | More |
| <i>Adjective</i> | 41.8% to 26.3% | 32.4% to 29.9% | Fewer | Fewer |
| <i>Verb</i> | Only 4.05% | 14.6% to 19.2% | A. M. list shows more in women | Slightly less |
| <i>Adverb and Interjection</i> | Fewer | Fewer | More | Similar |
| <i>Pronoun</i> | Fewer | Doubtful | More | X |
| <i>Sentence</i> | Fewer | Only one-fifth as many | Doubtful | Fewer |

An unfortunate feature of this study is a failure to embody some of the later work in the association method and the consequent masking of the light which this excellent material contains for the problems raised. As was pointed out in Jung's work, and has been confirmed, a most significant feature of the free association method is in the "predicate" category and its congeners. It is about the "*Sachlicher Typus*" and "*Prädikattypus*" that the recent work on the method has chiefly centered. This distinction is quite ignored in the present study, and as the material is presented, the reader can not work it out for himself. It is a mystery how any one with the knowledge of Jung's work that was evidently at the author's disposal could have lumped together such diverging mental mechanisms as are implicit in the original group of "inner" associations, or failed to take effective account of essential similarity of the egocentric and predicate mechanisms. The original Jung classification was cumbersome, but its detail showed the relative significance of its constituents, and the lines on which simplification should take place, in combining groups of similar significance or lack of it. This is far from what is done in the work of present reference. It goes back to where Jung began and stays there.

"A broader criticism to be made of these two papers is one that applies to much of the work from their common source. There seems to be no adequate conception of the significance of variability. In a school that makes so much of individual psychology, it is regrettable that individual differences should be all but ignored in a study whose material must contain much of value for their understanding." These remarks, made years ago of two contributions in the psychoanalytic *Jahrbuch*, apply somewhat in the present instance, though not to the same degree. Huber tabulates his individual cases, so that one may determine for himself the constancy of central tendencies, and calls occasional though hardly sufficient attention to the limited significance of small group differences. Statistical refinements manifest rather deliberate headway in the intellectual sources of this paper. The individual variations are often so large that the group differences reported have but limited meaning so far as their individuals are concerned.

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Theology as an Empirical Science. DOUGLAS CLYDE MACINTOSH.
New York: Macmillan Co. 1919. Pp. 261.

"If any one is able to make good the assertion that his theology rests upon valid evidence and sound reasoning, then it appears to

me that such theology must take its place as a part of science." This challenge from Huxley is accepted by Professor Macintosh. "It is high time," declares this writer, that the possibility of resting theology on valid evidence be insisted on. The book under consideration presses this point, and attempts to show not only that religious experience at its best has already given us knowledge of the divine reality, but that this knowledge, by an inductive procedure, may be developed and amplified.

Until the seventeenth century, theology was traditionalistic, and unsatisfying because uncritical; in the eighteenth century it was rationalistic, but lacking in real religious content; in the nineteenth century it was mystical or eclectic, and too subjective to gain universal approval. In the twentieth century may it become scientific? It may and will, affirms Professor Macintosh, if religious pragmatism becomes scientific—that is, if it becomes sufficiently critical to distinguish between that sort of "working" which is its own verification, and other sorts which are not verifiable. Theology must become empirical; it must look to religious experience for its data. And in so doing it must not be confused with the psychology of religion, with which Leuba and others would identify it. For the psychology of religion merely describes one department of mental activity. Theology as an empirical science must describe, not religious experience, but the object known through religious experience.

Scientific theology, like other empirical sciences, will have its distinctive presupposition. As chemistry assumes the existence of matter and the possibility of knowledge about it, so empirical theology will posit the existence of God, not in a provisional way, as a working hypothesis, but with assurance, on the basis of religious experience. This is justifiable, for religious experience has shown immediately that God is, though what God is may not be clear without reflection. The nature of God is what we are investigating. Starting with the definition of God as the ultimate object of religious dependence, or the source of religious deliverance, and finding his data in religious experience at its best, the author endeavors to show what may be said about the religious object.

A clear appreciation of the practical, common-sense attitude which prompts the author to make this initial statement—that God is already known as the object of religious dependence—is important for the reader: first, because this attitude is reflected frequently as the argument proceeds, and second, because the latter part of the book, dealing with theological theory, draws conclusions using this statement as a major premise. If this first postulate be granted, the reader will find the remainder of the argument con-

vincing. Professor Macintosh goes into some detail to make sure that it is understood. The assumption, he says, is made, as in other sciences, on the basis of pre-scientific experience with the object. A pre-botanical experience with plants is necessary before botany proper begins. And a pre-theological experience of the divine reality is necessary for theology. This religious intuition, like the awareness of one's own existence, or of the existence of others, is an instance of perception in a complex. In the complex of religious experience at its best the subject empirically intuits an object of religious dependence which proves to be a source of religious deliverance. If this be dogmatism, at least it is scientific. It is making a common-sense, critically defensible assumption for purposes of investigation. (The author later remarks that the complete justification of this position will be undertaken in a volume to be called *The Problem of Religious Knowledge*.)

Beginning then with the knowledge that God is and inquiring what God is, the author develops his argument under three main heads: Theology's Presuppositions, Its Data and Laws, and Its Theory. Along with the existence of God theology presupposes freedom, which is theoretically possible because of the continuous flow of time, and morally certain because of our consciousness of responsibility. Immortality, another presupposition, has never been proved impossible—it is in fact probable, for if the mind is free and can originate changes in the brain, may it not be sufficiently independent to survive changes in the brain?

Under Empirical Data the author discusses revelation. If a theology can be discovered which will be both natural and revealed, it will retain the vitality of historic religion while achieving the validity of science. Religious consciousness at its best means experience of the religious object as present. Revelation and religious perception thus become correlative terms. In the life of Jesus we find the supreme justification of experimental religion. For the secret of his power was his spiritual preparedness, which means his right relation to the object of his religious experience. Jesus's life is revelation because through it we understand what God's nature must be. And the Christian experience of salvation is revelation in that it shows how all things are possible to the man who keeps his religious adjustments in order.

Under the head of Theological Theory the author infers the morally ideal character of God—since on practical religious grounds God must be, rationally He may be, and in religion at its best He is found to be sufficient for man's religious needs. In the same way we may reason that God is omnipotent in the sense of being able to do all that man needs to have done for him by divine power;

with God all things that faith has the right to demand are possible. Similarly, He must be omniscient, self-dependent and a unity. We know that prayer is always answered, for we know that there is a dependable response to the right religious adjustment. Eschatologically, empirical theology looks for the increasing influence of the Christian attitude and spirit. And with regard to the problem of evil, it can only say that in the best possible kind of world there must be freedom and so there must be opportunity for mistakes.

In the Appendix the author sketches an outline of the philosophy of religion showing the relation of empirical theology to philosophy. He suggests a method called "Critical Monism" for the solution of problems of epistemology and psychophysics.

The theology thus presented has attempted, by a synthesis of rational and empirical procedures, to relate itself to the data of religious experience as physical sciences are related to the data of sense experience. It is a timely, constructive effort to build a workable system of doctrine which shall meet the tests of common sense and critical reflection. It will therefore be especially valuable for the religious worker who is interested in the philosophic implications of his belief.

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JOURNALS AND NEW BOOKS

MIND. October, 1919. *Introspection* (pp. 385-406): J. LAIRD. — "It seems both legitimate and necessary to assume that introspection has the same general characteristics as any other mental process by means of which we are able to apprehend the truth of fact." The thesis of this paper is that introspection ought to be regarded as a kind of cognition, "a kind of observation implying direct acquaintance with its object." *The Epistemology of Evolutionary Naturalism* (pp. 407-426): R. W. SELLARS. — "Penetrative intuition or literal inspection of the physical world is impossible. . . . The conformity between knowledge-content (understood propositions) and determinate being rests upon such a use of revelatory data as to enable us to gain insight into the determinate structure, capacities, and relations of physical things." *Mr. Joachim's Coherence-Notion of Truth* (pp. 427-435): A. R. WADIA. — Enumerates and discusses four chief weaknesses in Joachim's notion of truth. *An Ambiguity and Misconception in Plato's Idea of Morality in the Republic* (pp. 436-446): P. LEON. — The false idea of morality sponsored by Plato is that the essence of morality consists of "the full and harmonious development of all the faculties of a man." *Sense-Knowledge* (II).

(pp. 446-462): JAS. WARD. — Shows the continuity between perceptual and conceptual knowledge, with especial reference in this article to the case of spatial order. *Discussion: What Does Bergson Mean by Pure Perception?*: J. HARWARD. *Critical Notice*. C. A. Strong, *The Origin of Consciousness*: L. J. RUSSELL. *New Books*. Will Durant, *Philosophy and the Social Problem*: F. C. S. SCHILLER. R. B. Perry, *The Present Conflict of Ideals*: C. T. H. WALKER. *The Philosophy of Mr. Bertrand Russell, edited by P. E. B. Jourdain*: C. D. BROAD. Sir Henry Jones, *The Principles of Citizenship*: C. C. J. W. John Watson, *The State in Peace and War*: C. C. J. W. Florian Znaniecki, *Cultural Reality*: F. C. S. SCHILLER. Stewart A. McDowall, *Evolution and the Doctrine of the Trinity*: G. G. S. G. Hefelblower, *The Relation of John Locke to English Deism*: J. G. F. C. Constable, *Myself and Dreams*. *Philosophical Periodicals*. *Note: The Notion of a General Will*: C. D. BROAD.

de Ruggiero, Guido. *La Filosofia Contemporanea*: Tedesca, Francese, Anglo-Americana, Italiana. (Seconda edizione. Riveduta dall'autore). 2 Vols. Bari, Italy: Guis. Laterza & Figli. 1920. Pp. 268, 292. Due volumi, L 15.00.

Trabue, M. R., and Stockbridge, Frank Parker. *Measure your Mind: The Mentimeter and How to Use It*. New York: Doubleday, Page & Co. 1920. Pp. 349. \$3.00.

Tridon, André. *Psychoanalysis: Its History, Theory and Practise*. New York: B. W. Huebsch. 1919. Pp. 272. \$2.00.

NOTES AND NEWS

A MEETING of the Aristotelian Society was held March 8, 1920, Professor Wildon Carr in the chair. Mr. Morris Ginsberg read a paper on "Is There a General Will?" The term, general will, has been used in varying meanings, of which the following are the more important. The general will comes into being: (1) When every member of a group has a sentiment of regard for the group as a whole and identifies his good with the good of the whole group. (2) When a decision is arrived at by a real integration of differences and not by a mere blending of individual wishes. (3) It is recognized that society as a whole and the social good can only be common contents of consciousness in the very highest stages of civilization, but it is claimed that there are in society other common contents of a certain permanence and continuity, with the result that when confronted with the same situation, members of a society experience the same inner reaction. (4) There is the view of Wundt

based on an analysis of the mutual implications of presentation and will and leading to a theory of a series of will-unities of varied complexity. (5) There is the doctrine of a "real" will worked out by Professor Bosanquet and other idealists.

All these views, in varying degrees, involve a confusion between the act of willing which must always be individual and object of will which may be common. Professor Bosanquet's view in particular is based upon a hypostatization of contents and a tendency to deny the reality of acts of experience. Generally in so far as the psychological forces operative in society are general, they are not will, and in so far as there is present self-conscious volition, it is not general. The state and other associations exhibit a kind of unity, but this unity is a relation based on community of ideals and purposes and must not be spoken of as a person or will. For the purpose of social theory what is required is not a common self but a common good. The latter is an ideal and not an existent and must not be identified with a general will.

THE Western Philosophical Association held its twentieth annual meeting at the University of Wisconsin, Madison, Wis., on April 16 and 17, 1920. We give below a list of the papers read.

Friday, April 16

- "What It Means to Be a Living Thing," E. D. Starbuck.
- "The Logical Status of Elementary and Reflective Judgments," R. C. Lodge.
- "Some Lingering Misconceptions of Instrumentalism," A. W. Moore.
- "A Sociological Theory of Knowledge," E. L. Schaub.
- "The Chief Assumptions of Democracy," R. W. Sellars.
- "The Ethical Import of Nationalism," E. L. Hinman.
- "The Concept of State Power," G. H. Sabine.
- "International Punishment," A. P. Brogan.
- "The Attack on the State" (*Presidential address*), Norman Wilde.

April 17

- "A Neglected Aspect of Hume's Theory of Ethics," F. C. Sharp.
- "A Reversal of Perspective in Ethical Theory," H. W. Stuart.
- "Theories of Punitive Justice," E. Faris.
- "The Basis of Human Association," H. W. Wright.
- "Group Participation the Sociological Principle Par Excellence," J. E. Boodin.
- "A New Content Course in Philosophy," G. D. Walcott.

At the request of the New School for Social Research we print the following announcement of the three Fellowships in Social Re-

search which they are offering for the academic year 1920-1921:

"These fellowships carry a stipend of \$2,000 per annum each. Applicants are requested to write letters stating their records, training and experience, and describing as completely as possible their subjects and programs of research. Letters should be accompanied by printed or written evidence of the writer's work and abilities in his field, and such other documents as the writer may think pertinent. Awards will be based on the promise shown of constructive contributions to the methods or subject matter of any social science. The last day for receiving applications is May 1, 1920. Successful applicants are required to be in residence during the period of their tenure. For further information address Horace M. Kallen or Wesley C. Mitchell, The New School for Social Research, 465 West 23d Street, New York City, N. Y."

THE Columbia University Summer Session this year will be from the sixth of July to the thirteenth of August. The following courses will be given in the Department of Philosophy:

Introductory Courses

Principles of Scientific Method: Dr. H. W. Schneider.

Introduction to Philosophy: Dr. S. P. Lamprecht.

Graduate Courses

Naturalism: Professor W. T. Bush.

The Philosophy of Art: Professor W. T. Bush.

Radical, Conservative and Reactionary Tendencies in Present-day
Morals: Professor W. P. Montague.

Present-day Philosophy and the Problem of Evolution: Professor
W. P. Montague.

The Conceptions and Problems of Personal Idealism: Professor H.
A. Youtz, of Oberlin University.

The Ethical Philosophy of John Dewey: Dr. H. W. Schneider.

British Moral and Political Philosophy: Dr. S. P. Lamprecht.

WE learn from *Science* that "Lieutenant Schachne Isaacs, formerly instructor in psychology at the University of Cincinnati, and at present psychologist in the Air Service, Medical Research Laboratory, Mitchell Field, Long Island, has been awarded the fellowship in psychology offered by the Society for American Fellowships in French universities. This enables the holder to do graduate work in the French universities for two years. The purpose of the society

is to develop an appreciation among American scholars of French achievements in science and learning."

THE *Revue Néo-Scholastique de Philosophie* for February, 1920, contains a clear and well-written article on "Le néo-réalisme américain, et sa critique de l'idéalisme," by R. Kremer. The author, who has evidently followed very closely the writings of the American neo-realists, draws the following interesting conclusion from his study:

"Les limites d'un article ne nous permettent pas d'apprécier cette polémique. L'accord sur la thèse du réalisme ne nous empêcherait pas de faire des réserves sur certaines affirmations des nouveaux philosophes américains. Mais les points de contact avec les idées thomistes sont trop évidents pour ne pas avoir frappé les lecteurs de cette *Revue*. Nous nous contenterons de rappeler le chapitre des *Origines de la psychologie contemporaine* du Cardinal Mercier, consacré à la discussion du principe idéaliste. La fécondité de la pensée thomiste si brillamment représentée par le fondateur de l'Institut de Louvain se manifeste une fois de plus dans cette confirmation historique: à travers des phases variées, la pensée contemporaine revient, de très loin et à son insu, à la sagesse ancienne."

We have received the February issue of the *Archiv für Geschichte der Philosophie*, edited by Professor Ludwig Stein, with an accompanying letter stating that the periodical is revived with the same motives that prevailed when it was founded in 1887 by Professor Stein. It is the hope of the editor to continue the international character of the periodical which characterized its early issues. In the current number, contributions appear from English, French, Italian and German authors. The English contributions are: "The Development of Berkeley's Theism," by A. C. Armstrong of Wesleyan University, and "The Relation between Collier and Berkeley," by G. A. Johnston of St. Andrews University.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE LOGICAL IMPLICATES OF THE COMMUNITY

IF the ideal human society is an all-inclusive community of individuals, engaged in mutual cooperation and interpenetrating one another with mutual affection, a community constituted by and expressing itself through mutual helpfulness, support and love—if this be the true conception of the real community, then it must first of all rest upon a common understanding. For cooperation without understanding is not the voluntary cooperation of free and rational beings—the society of the ant-hill is not a human society; and love without mutual understanding is an insecure and unstable passion, disturbed by a restless and consuming anxiety.

There are many kinds and degrees of understanding. An understanding may be established and maintained at different levels, and may be characterized by different degrees of abstractness or concreteness. Thus if one says he likes cubist art and appreciates Wagnerian music, it is one thing to understand his words and their obvious logical meaning, and quite another thing to appreciate his feeling. If some one tells me he intends to commit a murder, it is possible to understand what it is that he intends to do without in the least understanding the man himself in his intention. The more abstract kinds of understanding, constituted as they are by the ability to grasp the objective meaning of words and their grammatical construction, are necessary prerequisites, generally speaking, to the realization of the more concrete kinds of understanding—necessary conditions, but certainly not sufficient conditions. If we call the more abstract understanding logical, we may speak of the more concrete understandings under the main heads of esthetic and ethical understanding.

Esthetic understanding is appreciation, the sensitiveness or empathy which incorporates in one's own esthetic life the feeling of another, perhaps with full sympathy, perhaps with a certain degree of reservation and criticism. In complete moral understanding an act is grasped in its motive or intention, is conceived as a possibility for oneself, and justified as morally valid. Moral understanding is an acknowledgment of the strivings and purposes of our fellow-men, and a true appreciation of their meaning and value; it

is the most concrete kind of understanding that life affords, and is, as such, both a necessary prerequisite for the perfect community, and the crowning consummation of the struggle for its realization.

In comparison with the fullness and richness of these moral and esthetic conditions, the merely logical implicates of the community must inevitably seem thin and abstract, pale and bloodless. And yet, they are in a certain sense the first to be considered, since they are logically prior, even though their value be not supreme. For unless men are capable, in principle, of a logical understanding of one another, they can not understand one another either esthetically or ethically, since moral and esthetic judgments also incorporate within them the forms of logical judgments.

The logical tests of thought and its products are: rationality in the sense of meaningfulness, consistency, and truth. Each following value in this advancing scale includes the previous value, but not *vice versa*. The primary test of rationality, as well as the primary test of consistency, is the principle of identity. This ancient law is usually formulated in so blind a fashion as itself to invite misunderstanding, though it is in very truth the parent of all understanding. In itself it appears to constitute a mere tautology; it is its human background and context which gives it sense and import. But when it is formulated without this reference to its relevant context, it takes on so trivial and futile an appearance that its only chance of attaining any importance at all is to be so fortunate as to become the object of attack. Hence it has been its portion to meet with doubt and distortion and attempted refutation, from the beginning of philosophic time to the dawn of the present pragmatic day. And yet I believe that the principle of identity can be so stated as to carry with it both a spontaneous conviction of its truth and a lively sense of its fundamental importance.

What, then, is the principle of identity? It is a logical principle which at one and the same time defines the individual mind's continuity of thinking, and the social consciousness of a common thought and a common world. It asserts that meanings of all kinds, and hence also the corresponding objects, may be apprehended as identically the same, whether by the same mind at different times, or by different minds at the same or different times. *A* is *A*, whether I think it yesterday, to-day or to-morrow; the *A* of yesterday can be grasped by to-day's or to-morrow's thought. The pale consolation claimed by the poet in the lines:

*Gestern liebt ich,
Heute leid ich,
Morgen sterb ich;*

*Dennoch denk ich
Heut' und morgen
Gern an gestern—*

even this sorry consolation can be the poet's possession only on sufferance of the abstract logical law of identity! The law of identity asserts in addition that the universe of discourse is the same for all minds that really understand each other, and in so far as they do so understand one another. The conduct of all meaningful thought, therefore, whether individual or social, requires the validity of this law as its first condition. If there were only one mind, and this mind had only one pulse of thought, the law would still be true; but it would then have lost its meaning and applicability in practise. But when this single mind begins to conduct its reflection in time, the possibility of identifying the same becomes an essential condition of the rationality of its reflection. If there are two minds, the social aspect of the principle comes into play. It is a truism to say that there can be no meeting of minds except on common ground; the existence in the ideal world of identical and common meanings is the indispensable background which makes the realization of such a common ground, and of a common world, possible.

To appreciate fully the truth and importance of this logical principle, it is well to make serious trial of the opposite hypothesis. If a meaning, once entertained, is gone forever, never to return, then the continuity of thought is broken absolutely; memory becomes a hollow mockery, like the counterfeit memory-ideas of Hume, distinguishable only from impressions and imagination-ideas by the degree of their intensity; and there is no such thing as mind, though perhaps there may be psychic processes in plenty. The momentary experience would be completely isolated, and in the next moment would be as if it had never been. Neither change nor sameness could be known. No meanings would remain to measure the change, and none to identify the sameness. Socially, the denial of the principle of identity would reflect itself in the frustration of all communication, and the stamping of all attempts to realize social intercourse as irrational and absurd. These alternatives are of course intolerable, their acceptance impossible, and their assertion intellectually suicidal. It is precisely this situation which justifies the recognition of a law of thought as an *a priori* necessity. The law of identity in its individual aspect asserts the possibility of an escape from the "present-moment predicament;" in its social aspect it asserts the possibility of an escape from the "ego-centric predicament," which latter predicament is only a variant of the former.

It scarcely seems necessary to add that the principle of identity has nothing to do with the sameness of things or persons perduring in time. The degree and nature of such sameness is, under the

logical conditions described, a question of ascertainable fact, and the principle of identity is wholly neutral as between a changing and an unchanging world. For even if there were no sameness at all in the objects of knowledge during two successive moments, the knowledge of this fact could only be ours under the condition that our meanings retained their identity with themselves, thus marking for us the *terminus a quo* and the *terminus ad quem* of each of the postulated unceasing changes. The sameness of all objects existing in time is partial and relative; the sameness of ideal meanings is absolute. Our grasp of this ideal sameness is of course not absolute, and our many partial or complete failures involve us in varying degrees of confusion of thought. But whoever seeks a clear understanding must believe that it is logically (and psychologically) possible, and that it is a rewarder of all who seek it diligently. The rationality of the search for an understanding with ourselves and our neighbors, and the absolute logical validity of the principle of identity, are but the obverse and the converse sides of one and the same thing.

The principle of identity is not the only logical implicate of the community. It suffices to define the nature of the universal; but it does not suffice to define in a more concrete way the nature of the knowledge which makes conscious cooperation possible, nor does it imply concretely the nature of the known world in which conscious cooperation can take place. And naturally, it does not by any means suffice to define truth. The so-called law of sufficient reason, however, is a sheaf of principles, each of which takes us a step or two farther on this road. The vagueness with which this law is ordinarily formulated and explained is a reproach to logic. It is not a single law, but conceals under an ambiguous phraseology at least three distinct principles, each independent of the rest, though exhibiting with one another a faint analogy, tending perhaps to explain if not to justify the historical cohesion between them. It covers, *first*, the principle of inference: that judgments may be concatenated into systems of logical interdependence, so that one or several judgments may serve as the reason for a conclusion. It covers, *second*, the principle of causation, which asserts that things behave in some uniform manner; and it covers, *third*, the principle of teleology, which asserts that there is a reason for all existing things, so that the universe has a rational meaning. All these principles underlie various aspects of the community life. The first makes experience possible, and the wisdom that comes from experience. Without it we should be the prey of blind circumstance, and our neighbors would find our actions unaccountable, lacking in the

evidence of rational planning. Cooperation could not be conscious, its success could be only accidental, and its outcome generally subject to the arbitrary tyranny of the blindly irrational. The second, namely the principle of causation, makes planning possible from the objective side, and cooperation between planners; hence it asserts the possibility of a concrete and essential aspect of all community life. The teleological principle posits the existence of a valid and adequate motive for the life of the individual and of the community. Its negation is the assertion of the doctrine of the Preacher, that all is vanity and vexation of spirit. The ideal community sets itself up as a rational aim for human effort, a goal in which no life need be lost and no striving useless, but where a glorious meaning crowns every sincere and earnest endeavor.

Is the logical order here described as implicated in the notion of the community, a datum or a construct, a gift or an achievement? At the risk of seeming to straddle both sides of the contemporary philosophical fence, I must assert my conviction that it is both; although of course not in identically the same sense. In itself, that is, in its ideal existence, the logical order is something preexisting; in its use and application for knowledge and life it is a human discovery and a human achievement. There is a world of ideas, timeless and unchanging. It exists for us to apprehend as far as we can, and to make increasingly effective as an instrumentality of knowledge. There is a logical order which is prior to the actual order, and it is for us to mold the actual order by growing into an increasingly fuller mastery of the gifts and opportunities afforded by the ideal order. Its prior existence constitutes the possibility of the actual fruitful work of human thought in science and in life.

To assert the existence of the logical order is one thing, and to confound this existence with an individually attained clearness of conception, or the concrete possession of actual knowledge, is an entirely different thing. The latter confusion is the distinguishing mark of what may be called intellectualism in the derogatory sense. The essence of this error is the identification of potentiality with actuality; by which identification both categories lose their real meaning. The "might have been" of the past, and the "may be" of the future, are under this identification robbed of all resemblance to themselves, crushed by the bleak tyranny of a necessity, which, when it plays this rôle, is no longer a merely logical necessity, but becomes a sort of fate. The existence of the entire logical order constitutes only the ideal framework around which the actual achievements of thought and science and daily life are slowly and painfully consolidated. The logical order is indeed a limit set

upon human thought. But it also affords to human thought its proper task and opportunity. It binds in order to set us free. It is a perfect law yielding to perfect obedience the reward of freedom.

The fantastic assumption that this logical order is in some mysterious way a dramatic achievement of bold and daring pioneering minds, and so created *ad hoc* by them to serve our purposes and desires, is an absurd and self-contradictory assumption. For every achievement, no matter how original and daring, must at least be the achievement of something. And if the achievement is a conscious achievement, this something is present to thought in advance of its consummation. But since nothing can be identified as being what it is instead of being something else, without implying the prior validity of the logical order, the assumption that the logical order is created in this way is self-contradictory. The normal logical man discovers the logical order, just as he discovers truth; it is only the abnormal logical superman of heated fancy who creates the logical order, or wills it into being as over against a hostile world, just as he is also supposed to make the truth to *happen* or *become* in verifying it. The logical superman is no less fantastic and unreal than the moral superman. Instead of acknowledging and obeying the moral ideals that are to be found for the searching, the latter creates ideals and "transvalues values." Not content to transcend the modest idealism of Goethe,

Die Wahre war schon längst gefunden

Die alte Wahre, fass es an!

—not content with making a first discovery of new moral truth, he creates such truth for himself and for others. They have both—the logical and the moral superman—eaten of the fruit of the tree of the knowledge of good and evil, and have imagined themselves as gods. A skeptic once asked whether, if you put in a lie at one end of the Atlantic cable, it would come out a truth at the other. This magic trick is the superman's grand accomplishment in the world of the spirit—in the spiritual order, where if anything it is still more impossible of accomplishment than in the mechanical order of things!

The extremes of pragmatism and intellectualism are not so very far apart. Both Kant and Aristotle suggest that the reason creates the forms. A pragmatist like Schiller assigns this function to the will; but if the latter creates the forms of rational knowledge out of its own resources, then this will and that reason are one in function and in fact. What saves intellectualists of the type of Kant and Aristotle from occupying the extreme position, is the

acknowledgment of a limiting and indeterminate $\bar{\omega}\lambda\eta$, or of an objective but unknowable *ding an sich*. The true position appears to me to be that there is nothing in the forms which is not also in the things, and that both forms and things are discoveries. The real meaning of such categories as an indeterminate matter, or an underlying substance, or an unknown thing in itself, or, as in James and other moderns, a chaotic and indeterminate flux, is to point or embody the distinction between logical content and actual existence. This distinction is not a matter of logical content; actual existence does not differ from possible or conceived existence in logical content, but only in the kind of existence, actual existence being believed in and asserted, while possible existence is only conceived of as possible. But if the forms constitute a human or super-human contribution to the things, altering them and transforming them in order to make them knowable, then the resulting knowledge is not really knowledge of these things, but the knowledge of others, which have first been made before they are known; the resulting apprehension, considered as an apprehension of the first order of things, is a misapprehension. If we create truth, we create it either under given conditions which limit and modify our creative activities; or we create it absolutely. But creation of truth under objective limiting conditions, is not creation, but discovery of truth. And an absolute creation of truth is not distinguishable from an absolute creation of illusion or falsehood, as Nietzsche so deeply felt and so eloquently expressed. The arbitrariness of the process renders nugatory the distinction between the truth and the falsity of the product. For both truth and falsity are relational categories.

The preexistence of a valid logical order is the first necessary condition for the realization of the true community. But (shall I now say fortunately or unfortunately?) it is not the sole or sufficient condition. There is a host of real and ideal conditions, physical, economic, political, esthetic and moral, all equally indispensable with the logical. If it be true that to understand is to forgive, then this principle is true only under the assumption of so concrete a meaning for the term understanding, that it far transcends any merely logical interpretation of that category. And the validity of the logical order is so abstract a condition that it does not carry with it the actuality of even a logical understanding on the part of any individual; so that the realization of a moral and esthetic harmony is scarcely even foreshadowed in the abstract logical order itself. It is its identification with this latter goal that mars that otherwise genial product of Josiah Royce's thought, the doctrine developed in the *Problem of Christianity*. The identification which constitutes

the leading principle of that book, leads inevitably to a static instead of a dynamic view of life, no matter how earnestly we try to transcend the immobility of the logical essences by introducing into them the idea of a self-repeating reflection, which can neither create anything new nor change anything old. It leads to a non-moral view of life; which is natural enough, since it begins by annihilating life. It can find no real room for either the possibility or the actuality of error, or of evil. And it reveals its fundamental absurdity in the final astounding equation of the logical order with the invisible church universal, a community instinct with the life of the Holy Spirit; than which no confusion could be more profound.

The logical order is valid and necessary; the actual order, for which the logical order furnishes in part the framework, is at one and the same time a beneficent gift and a moral task for the highest energies of free men.

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INTELLIGENCE AND MENTAL TESTS¹

GRATIFYING at least it is to observe that psychologists are beginning to weigh the results of work in mental tests, and to deplore in these results the almost complete absence of returns possessing permanent psychological value. And hopeful indeed is the discovery that the cause of the failure of mental testing to contribute to the development of psychology is the failure to arrive at an understanding of the nature of the materials with which the mental tester works.² At this point one is moved to comment upon the unhappy divorce between the labors of those working with mental tests, and the interpretations of the theoretical psychologist.

The writer fears that we do not carefully enough distinguish between the traditional speculative psychologist, who based his work upon assumptions, very remotely, if at all, related to concrete facts, and the theoretical psychologist who does critically evaluate concrete psychological facts, and suggests the direction of further observation of them.³ Essentially, the theoretical psychologist performs the function of a consulting scientist. To deny that the theoretical scientist is a scientist because he does not himself conduct an experi-

¹ The thesis here presented constitutes the substance of a paper read before the Psychological Seminar in the University of Minnesota, 1916-17.

² Cf. Ruml, this JOURNAL, XVII., p. 57.

³ For a statement concerning the relative position of the theoretical and practical scientist cf. Rignano, *Scientific Synthesis* (1918), Ch. 1.

ment, provided he is possessed of laboratory training, is exactly like denying that the consulting engineer is an engineer because he does not himself hold the contract to build a bridge.

The unfortunate consequence of the early assumption of the applied psychologist, namely, that it was unnecessary to define intelligence clearly, was the uncritical acceptance of the view that intelligence was a permanent entity or a complete faculty. Individuals were looked upon as analogous to chemical elements, and just as the latter were each presumed to possess a given chemical affinity for some other elements, so intelligence was conceived as a metapsychological property of the person.⁴ In general, intelligence was looked upon as a mental force in some manner related to a body, and which adjusted the body to certain objects in contact with the body. Misguiding in the extreme appears the analogy referred to, since the valence of a chemical element is not an occult power, but a fact observed in the combination of elements, that is, the multiple of unit charges of positive or negative electricity which an element holds. Unfortunately, however, the infelicitous anthropomorphic attitude with which psychologists approached both the data of physics and psychology was responsible for the adoption of a completely unsatisfactory view concerning the character of intelligence. Now when we study intelligence as an observed fact we never find any absolute essence or faculty performing unique kinds of activities. Traces of such a view in current psychology are probably vestiges of the theological influence upon science, from the complete rejection of which psychology would greatly benefit.

Intelligence is really a name or a scientific category which denotes certain specific forms of definite reactions. Thus, an intelligent act or intelligent behavior is comparatively a more effective adjustment response than are other sorts. Justifiable then appears the view of some psychologists who consider volitional, voluntary, and even habit acts to be intelligent, while reflexes and original instincts are not.⁵ In such a view, the fact of performing an act conditioned and perhaps improved by past experience constitutes an important factor in intelligence.

Possessing intelligence is, then, the fact of having acquired suitable reaction systems for the purpose of carrying out definite responses. Expertness is precisely the possession of intelligence in this sense, and expertness is a product of the interaction of an indi-

⁴No doubt the social psychologist would interpret the doctrine of permanent intelligence as a philosophical reflection of divine and natural rights, of accidentally invested special interests, which developed as a theoretical justification of some pecuniary, political or social *status quo*.

⁵This is not to say that reflexes and instincts are unconscious.

vidual with some particular kind of thing or condition. It is for this reason that we are willing and unashamed to be unintelligent or even stupid concerning facts and conditions in which we do not specialize or in which we are not interested. Says James:⁶ "I, who for the time have staked my all on being a psychologist, am mortified if others know much more psychology than I. But I am content to wallow in the grossest ignorance of Greek."

But here the problem arises why it is that, of two individuals who stake their all upon being lawyers and who receive the same training, one becomes a better lawyer than the other. Is it because the one possesses the better innate capacity? Observations of this type require always extremely careful analysis. In the first place, when we say a better lawyer we must be careful to keep our psychological problem clear of the entangling thicket of social conditions and social judgments. We must remember that, while it may be a mark of intelligence to enlist the aids necessary to become a good lawyer and to seize upon every expedient working for social success, such facts are beside the specific problem of attaining proficiency in the understanding and the administration of legal tradition and legal enactments.

That we can not, in such a case, completely avoid this thicket of social conditions makes us pause. Nothing is more pertinent than the question as to whether it is not precisely the surrounding conditions which really make, not only for betterness in the social scale, but also for greater intelligence of any specific sort, since the surroundings offer the occasion to develop more and more relevant responses for legal situations. Moreover, is it possible to speak of intelligence at all excepting in terms of definite forms of response which have been naturally acquired in concrete interaction with definite forms of stimulating objects? As a matter of fact, when studying concrete behavior the notion of an absolute general ability becomes dissipated.

And, further, what can be meant by the *same* legal training? Is training merely a casual contact of a person with things producing an indifferent effect upon him? Rather, is it not true that any present training is a definite characteristic function of a given person because such training depends upon previous acquisition of reaction systems? For this reason it is almost impossible for two individuals to undergo the same training. This fact is clearly apparent when we consider the numerous differences in what is commonly miscalled the same environment of two people, for instance of two members of the same family. It follows then that if two persons are to have

⁶ *Principles of Psychology*, I., 310.

the same training they must have previously acquired the same type and quantity of reaction patterns which are relevant to the present situation. In point of fact when we have separated the normal from the abnormal or feeble-minded person, that is to say, the person of poor biological stock, we can readily convince ourselves that intelligence is entirely the product of a long series of cumulative trainings.

Nor is it possible to minimize the subtlety and the effectiveness of our acquisition of reaction patterns. Perhaps this is indicated most clearly by the fact that much of such acquisition passes for inherited talent. Confusion of acquired response systems with hypothetical inherited talent is exemplified in the following case. A child from early infancy is exposed to a musical environment, in which music and its cultivation are glorified, and as a consequence develops interests, technique, sentiments, and other forms of reaction patterns making for musicianship, but, in spite of this development, is looked upon as an inheritor of musical talent.

And so if talents are essentially acquisitions we must rephrase some popular expressions so that they will more exactly conform with the facts. Actors and other men of talent are made more readily when they are born into a theatrical or other characteristic environment, than when they are brought into such an environment after having developed in some alien *milieu* which made them into anything but actors. Much light is thrown upon the intricate problems of intelligence by the consideration that certain of the factors which contribute to the making of a good actor are common to other occupations. Clear it is then that the individual previously a machinist can not receive the same training from an identical law course as the individual who spent the corresponding time in the study of political and social history.⁷ And so while the machinist is inferior in legal intelligence we have no indication that he is deficient in native ability.

Turning for a moment to the criterion of intelligence which is probably most prevalent, namely, that intelligence enables us to adjust ourselves to new situations, let us examine what is here meant by *new*. Is it not an obvious fact that we are entirely helpless in the face of a totally new situation? Psychologists unanimously agree upon this in the dictum that we can not even conceive anything absolutely new. What our intelligence criterion really means, then, is that, having developed many forms of reaction systems by contact with surrounding objects and conditions, we can now adapt ourselves to similar situations without additional learning. The implication here is of course that the intelligent individual is one who has acquired many of these necessary reaction patterns.

⁷ We assume of course that the student of history has profited by his study.

Paradoxical as it may seem, intelligence is so decidedly not an entity or a faculty, that we may look upon it as being precisely as much a function (in the mathematical sense) of the environment⁸ as of the person. What is meant is this, that so little in our intelligent behavior can be traced to an original unacquired factor that we must accredit the enviroing circumstances with their full share in the development of intelligence. And so while it is fundamentally false, on the surface it yet seems true that women have less intelligence than men. For you can not find women who are capable of doing many kinds of work which men can do. The rapidly decreasing number of such examples offers good evidence that what the lack of intelligence means in such cases is the absence of opportunity to develop intelligence, that is to say reaction patterns to perform certain adaptations to particular kinds of stimulating objects and situations. Immigrant women are notoriously less intelligent and less able to adjust themselves to their surroundings than their husbands, provided always that the former do not become wage earners and thus embrace the opportunity to develop more intelligence. To the credit of mental tests be it said that to a considerable extent it was through them that the superstition of male superiority was exploded. And let us not forget that it was through the definite study of actual environmental opportunity for development that the metaphysical belief in the preeminence of the civilized mind was dethroned.

Also we must note that the inferiority of intelligence in women and in so-called primitive people was not a fact observed, but a religio-politico-economic pronouncement concerning the relative values of souls. The writer ventures the opinion that with the passing of a subjectivistic psychology and its replacement by an extensive study of concrete human reactions the need for a native intelligence, whether omniscient, multiscient or merely uniscient, will disappear.⁹ Such an intelligence, whether described as a general faculty or a multiplicity of specific abilities, belongs with those mysterious elements, the instincts, to the class of psychological impedimenta which not only do not add to our understanding of psychological phenomena, but actually prevent a factual study of them.

And now we must consider what light the work on psychological tests throws upon the problem of intelligence. A study of the actual procedure and results of mental tests proves conclusively that such tests are and can only be designed to measure some performance whose achievement is the result of a previous interaction of a person

⁸ In the sense of conditions offering opportunity for developing reaction systems.

⁹ One of the unique products of a soul theory of intelligence is the conception of innate mental weakness with some specific superior ability.

and objects (machines—materials). It is for this reason that “no test has any significance for employment purposes until it has been tried out on employees doing exactly the same kind of work as that for which new applicants are to be tested later on.”¹⁰ Illuminating in the extreme in this connection is the study of the limitations of mental tests. What must one conclude from the fact that mental tests are of no service in selecting executives? Should we say that mental tests do not attempt to measure intelligence? For surely, if they did, they could not be applied to any more directly functioning intelligence than is found in the work of an executive. But to accept this conclusion would mean giving up the whole problem of measuring intelligence, and this is impossible, for the genuine usefulness of the tests indicates that there may be degrees of intelligence, the lower ones of which may be very readily determined. Or should we say that intelligence is an unknowable thing, at least so far as tests are concerned, since tests are only useful for acts which have a definitely standardized form? To the writer it seems that the difficulty is entirely factitious and based upon the misconception that intelligence is native.

What the inapplicability of tests to the selection of executives really teaches us is, that all tests are performance tests based upon definite reaction patterns and not measures of connate capacity. Now since executive intelligence means the possession of innumerable and complex reaction systems it is entirely to be expected that the present development of tests should be still inadequate to meet the situation. And, further, the student of tests must be always unable to meet this situation if he persists in the belief that intelligence is innate, since such a view precludes the investigation of the actual contributing conditions which make possible complex human adjustments. To mention just one difficulty, the applied psychologist makes too wide a difference between moral and mental qualities, as though it were possible completely to separate these when an employment problem is under investigation. In this connection it is remarkable to observe upon what slender threads are sometimes hung the belief in an absolute intelligence factor. Thus the positive correlation between tapping, letter crossing, and other tests is presumed to be evidence of the presence of such a general intelligence factor.

To differentiate between mental tests and trade tests because the former measures native ability while the latter measures acquisition is to make an assumption not warranted by the facts of mental tests.¹¹

¹⁰ Link, *Employment Psychology*, p. 19.

¹¹ The writer finds encouraging the inclination of psychologists toward a concrete behavior view as manifest in the tendency to give up the term “mental tests” in favor of “psychological tests” to cover all work in this field of psychological application.

The fact is that the only difference between the two types of tests lies in the simplicity and definiteness of the latter. It is because the behavior investigated by the mental as over against the trade tests shows a greater complexity and variety, and is in general more difficult to study, that we may draw a definite line between the tests. One might say, then, that the difference between the intelligence of an executive and that of a machinist for a student of behavior lies in the comparative ease with which one can get an objective measure of the productivity of the latter. The writer is firmly convinced that with a larger conception of mental tests their value for the selection of executives may be vastly enhanced.

It may still be urged that the prominent individual differences to be found in persons must be sought in some unacquired quality in the person. We have already indicated that the probable source of such a view is to be found in some metapsychological prejudice rather than in observable facts. But the study of individual differences, it must be admitted, is fraught with grave perplexities, since in actual practise it is extremely difficult to ascertain clearly the precise points at which certain reaction systems constituting personal traits are actually acquired. Just how an individual has acquired a mathematical or a general scientific or a religious cast of mind is not an easy matter to determine. For the sake of science, however, we must plead for perseverance contempered with caution.

Nothing is less doubtful than that there are wide differences in intelligence, and nothing is more certain than that not every one is capable of mastering a given problem; but is this saying more than that intelligence once developed gives one an advantage in that it now can be employed? Certain it is also that the advantage one has over others in the possession of intelligence is due only to a series of concrete empirical events, once it is admitted that the persons under discussion are all of normal stock.

When once we determine to abjure the quick and easy way of accounting for the complex facts of psychological phenomena by referring them to occult causes or analogical symbols¹² and insist upon the study of concrete reactions, our way lies open to investigations which promise satisfactory solutions to our genuine psychological problems. In the consideration that the psychological reaction pattern is a mode of response of a living organism to complex surrounding conditions, we find the suggestion that the prepsychological¹³ problem of individual differences lies precisely in the character of

¹² Such as Stern's illegitimate comparison of intelligence and electricity.

¹³ By "prepsychological" is meant any phase of biological functioning at the basis of the specific reaction pattern.

the biological stock of the individual. Thus, for example, the neuroglandular organization of the person is of enormous influence in the determination of his psychological conduct. But although there is an inexhaustible source of such material, it is, as yet, practically untouched by scientific investigation. The same importance for the study of individual differences of action is attached to the perfection and degree of development of the receptor systems, as for example the rôle played by a specific condition of the auditory apparatus in the total complex of musical ability, or the qualities of the visual apparatus in mechanical or esthetic drawing. Not only does such information concerning the biological stock of the individual throw light upon the differentiation of persons into normal and abnormal, but it also illuminates the only possible source of inherited individual traits and differences. Undoubtedly, the complex and complete organization of the actual human individual when once known to a satisfactory degree will clear up many important problems of temperament, character, capacity, traits, and genius. The gain involved in awaiting such factual development is no less, let us repeat, than the acquisition of definite scientific information as over against unfounded and useless speculation.

In sum, the failure of the work of mental tests to yield principles leading to a wider extension of knowledge concerning psychological phenomena is due to the acceptance of the assumption that intelligence, or what is measured by the tests, is a mental factor and not a specific mode of adjustmental response. Thus scant attention is paid to the precise facts upon which the tests have their actual bearing. In consequence the work of mental testing merely leads to more work, but to no organized accomplishment of definite merit. To place emphasis upon the actual response as it can be studied will mean not only the avoidance of necessarily unfruitful attempts to seize upon a hypothetical faculty, but a positive understanding of actual psychological phenomena. The new direction which psychology would thus take would make superfluous such speculations as to whether the organization of the "mind" is such that its acts are related or unrelated. Instead, we would learn what the facts seem clearly to indicate, namely, that intelligent acts, as all psychological acts, must be *specific*; for our reaction patterns are definite, concrete responses. But, since our environment is more or less uniform and homogeneous, the acquisition of many response patterns must mean that our *general* capacity to respond to things is increased. Changes and improvements in the mode of responding to our surroundings are induced by variations in the objects and their relations, to which we find it necessary to adapt ourselves. In the

acquisition of numerous response patterns the person *ipso facto* takes on the qualities of general intelligence, among which are variety, independence, agility, and rapidity of response.

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DR. WILDON CARR'S THEORY OF THE RELATION BETWEEN BODY AND MIND

DR. CARR'S consideration of the relation between mind and the body in his presidential address to the Aristotelian Society¹ places the problem in an original setting, and renders still less tenable any parallelistic explanation; I should like to offer, however, a few notes on certain difficulties which still seem to remain in spite of his thoughtful treatment.

Dr. Carr regards the interaction as occurring between two systems which are existentially completely disparate—"there is no common factor in psychical and physiological process" (p. 7). At the same time I do not think that his view of mind as independently organized, and as responding therefore always as a whole, is as new as he takes it to be,² although I feel convinced that to regard the interaction as taking place essentially between wholes is the truest method of approaching the subject.

1. But the specific arguments advanced by Dr. Carr in support of this general position seem in several respects to lack cogency. "Consciousness" he affirms, "is the manifestation of an immaterial object—the soul" (p. 9); his reason being that "to be conscious or aware of an object is not to contemplate but to recognize it. Recognition implies precognition, presupposes memory and constructive imagination" (p. 10). But if recognition thus implies precognition, plainly this again requires a cognition still prior, and so *ad infinitum*; nor does this view again agree with the basal assumption as to knowledge which is made by Croce, and which has received, as is well known, Dr. Carr's own endorsement.³

Then in rejecting the suggestion that psychical activity is as such merely a function of the brain, Dr. Carr appears to me to be unconsciously rather dogmatic; his arguments certainly go a cer-

¹ *Proc.* 1917-18. p. 1.

² Cf., e. g., Bosanquet, *Principle of Individuality*, pp. 114, 168, 182, and the further references there. But does not Dr. Carr misinterpret Dr. Haldane's view of the body as a "perfect machine" (p. 6)? We have only to turn to p. 422 of the same volume to find him asserting that "a living organism differs from any mechanism which we can construct or conceive."

³ Cf. *The Philosophy of Benedetto Croce*, ch. III.

tain length towards supporting his contention, but they are by no means sufficient for its complete establishment. I am not questioning the fact in itself—I agree, *i. e.*, that it is not the brain, but mind, which thinks; but Dr. Carr’s proof of this principle does not seem to be final. He argues that all psychical acts must belong to mind only, because it always acts as a whole. But it is equally a fundamental principle with him that the brain (the body in fact) also acts as a whole, and that there is neither point-to-point correspondence nor union between them (p. 22), which excludes the possibility, therefore, that any single brain process always results in some special and restricted psychical activity; and thus it becomes *logically* possible for the brain, since it acts (like mind) as one whole, to produce psychical combinations of any degree of complexity. My contention is not that it ever actually does this, but that Dr. Carr’s argument is in itself as it stands insufficient to prove its impossibility.

We reach the same conclusion if we consider this point from another aspect. Even when we admit interaction between brain and mind acting as wholes, we must still retain a view of their relation which (on account of their disparate nature) verges very closely on parallelism; for it is only the *ultimate* action of each that affects the other as a whole, while their proximate or immediate interaction is localized or specialized. I may express this aspect of the problem better perhaps by saying that ultimate control by either mind or body is certainly effected by them as wholes, but that this is distinct from their specific or detailed activities. If, *e. g.*, I depress a key with my finger, the total body control is distinct from the special finger action, although both are necessary; and in much the same way, the facts both of brain structure and of mind organization seem to imply that each kind of psychical activity maintains a constant relation with one and the same part of the brain. This need not be a point-to-point or one-to-one relation, but it certainly seems to take the form of a constant connection between what may be called the “organs” of brain and of mind, respectively, analogous to the special functions peculiar to each organ of the body itself, even while this acts as a whole.

2. In this respect Dr. Carr’s assertion that a rat, although more cunning, is “not better equipped neurologically for its special activities” than a rabbit (p. 24), seems to be doubtful. I am not certain what “better neurological equipment” exactly means, but it can not imply that the higher cerebral centers of the two species present little or no difference; for if that is the case, evolution has modified diversely every bodily and also every mental detail of their constitu-

tion except these centers, which is an inconceivable supposition. Dr. Carr refers to the "complexity and quantity of specific (cerebral?) contrivances;" and if we compare a bee with a rabbit, quantity of cerebral substance in itself certainly appears negligible. But this by no means implies that the relative proportions and efficiency of the various parts of this matter, whatever its quantity, are equally unimportant. May they not stand somewhat in the same relation as, *e. g.*, a modern pocket pistol to a blunderbuss? If again we recall the importance assigned by Bergson to insect instinct, and the strong support always accorded by Dr. Carr himself to Bergson's system, his theory of neurological indifference here becomes still more remarkable.

3. Somewhat in the same way he misinterprets the relation between the higher brain centers and skilled action, which he regards as an instance of "brain development quite disparate from mind development" (p. 25). The facts, however, seem to support a directly contrary view. In the first place, the coordination of skilled movements centers not mainly nor directly in the cerebral hemispheres, but in the cerebellum and corpus striatum, the control of the higher tracts over these being but general and supervisory; and further, the *acquisition* of skill (as Dr. Carr himself admits) depends essentially on "the higher cerebral centers," though not necessarily on those which are predominant in a "mental giant" without any skill. The function of these is just to educate the muscular and lower nervous systems to such a degree that they can act automatically and independently; the only alternative being to regard all increase in skill, which quite obviously demands a higher intelligence of its own special kind, as never in any case a psychical activity—never the operation of mind as a whole. And to infer that mind development is here wholly disparate is to argue that the high efficiency of a first-class boat crew proves the absence of a trainer, when in fact it proves exactly the reverse.

Before passing to what appear still more fundamental difficulties in Dr. Carr's treatment, I may note one or two puzzling discrepancies, which may be no more, however, than inadequacies in expression. We may contrast then the statement on p. 18, "We can and do conceive the living body as complete in itself without the accompaniment of consciousness," with that on p. 20, "It is impossible for me to think that my body without my mind is still my body;" and again (p. 19), the "function of coordination is not exercised by any specific structure," but (p. 20), "the mechanism by which coordination is effected can be located in the cerebral cortex," which, however, is undoubtedly a "structure" highly complicated and "specific."

4. When we come to consider Dr. Carr's final theory of the ultimate basis of the interaction between mind and body, it seems to add nothing whatever to our understanding of the problem; for it takes the unsatisfying form of an appeal, if not to unknowable, certainly to unknown or even purely hypothetical, agencies. Psychical activity, self-organized into mind, and bodily process, also as a whole, are, while disparate in nature, yet intimately connected in their activity; and thought seeks some explanation or ground of this mysterious union of opposites. Dr. Carr's own conclusion is that "the forces, whatever they are, which are molding the body are the *identical forces which are forming the mind*."⁴ But such a solution of the difficulty is purely formal, abstract, scholastic; it at once raises the original question in a new form, for we are compelled to ask what is the nature of these forces, and how, being identical, do they come to manifest themselves on these absolutely disparate planes? The incomprehensibility of the concrete phenomena, as we actually find them in experience, is in no degree removed by the inconceivability of the action of abstractly identical unknown forces.

A somewhat similar defect characterizes Dr. Carr's reference of this dual manifestation of mind and brain to an origin in "life as an undifferentiated unity" (p. 33); for even had we experience of such life—and Dr. Carr admits that this does not exist—still this could in no way be an "undifferentiated unity," for such a conception is at once logically inconceivable and existentially impossible. Unity, in any real sense, must in some way be differentiated; for the obvious reason that if there be no diversity whatever, neither can there be any true unity, for unity is essentially the overcoming of differences—if America, *e. g.*, were not differentiated, there could be no *United States*. At the most there could be but a featureless uniformity, which under no conditions can be conceived as the real origin of the dual world of bodily and mental life. An "undifferentiated unity" then is but a logical chimera; even did it exist, how could self-differentiation arise within it? Some *πουν στω*—some basis of differentiation—is indispensable.

Finally, if Dr. Carr is correct in assigning, as their distinctive and mutually exclusive characters, freedom to mind, and necessity to the body (p. 31), then it becomes impossible for these to be (as he regards them) wholly antithetical. For freedom is fundamentally misconceived when it is regarded as the antithesis of necessity; on the contrary, it is its logical and inevitable complement; for each alike can be expressed in terms of determination, or (better) of

⁴ P. 27; italics mine.

degrees of self-determination. Throughout the universe of concrete reality, this latter everywhere exists and operates in some degree; if but slightly, then determination is mainly from without, and "necessity" reigns; but as the level of internal self-determination rises, it becomes gradually transformed into "freedom"; and just as the mind is nowhere wholly free, so the body and the material universe as a whole are never completely dominated by necessity. To say therefore with Dr. Carr that one is rigidly determined and the other free, is to abandon that antithesis between them which is from the outset indispensable to his whole argument.

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REVIEWS AND ABSTRACTS OF LITERATURE

An Introduction to Philosophy. HOLLY ESTIL CUNNINGHAM.

Boston: Richard G. Badger. 1920. Pp. 257.

Time was—perhaps still is—when an introduction to philosophy consisted in casting the young, unsuspecting mind overboard from the craft of everyday thought into the vast and vague deep of fundamental questions, and bidding it strike out and swim or sink—below the college passing mark. Professor Cunningham's "introduction" is in strong contrast with this Jonah-like process. With remarkable deliberation for so small a volume, in chapter after chapter, he points out to the student the contours of the solid shoreline of science and common fact, and how they reach down in slope after slope to the sea of philosophy. Then he leads his charge a little way into the water, showing him that the same earth is still underfoot, but adding that the water is much deeper beyond—in places unplumbed. This course commends itself as more merciful to the bewildered and perhaps shivery novice; but is it an introduction to philosophy? Can one get a real acquaintance with metaphysics or ethics—more than a bowing one—without actually grappling with their problems? Is wading a mean proportional between land travel and swimming?

The author begins with a plea for the genetic method. This appears to be sound logically; but has he recognized the pedagogic limitations of that method? A study of origins can be very dull and pointless to those who have not yet acquired an interest in the subject matter.

In the next five chapters a survey is made of what are called the psychological, physiological and social "backgrounds to philosophy," which prove to be substantially the fields of social psychology and anthropology. This course the author justifies on the ground that

"philosophy is one type of action, one method of meeting problems, one way of responding to stimuli," and that a consideration, for example, of the "psychological background" is essential, because: "(a) It shows what are the springs, the sources of our action; (b) it makes clear the point that these springs of action determine within what limits our philosophical, scientific, social, and political problems must move; (c) it shows that all knowledge, even philosophy, is for action." Unfortunately it is quite doubtful if the author's summary description of the instincts and other human conations will show the students these extensive principles.

As to the need for the *physical* background Dr. Cunningham finds it illustrated in the fact that the Greek cosmography is "a reflection of their environment" and the Eskimo hell is "cold and dark"—in strong contrast with the Jewish. "Buddhism," he adds, "looks upon heaven as the cessation of all activity, and we little wonder that this is so when we think of the incessant struggle against the steaming heat and humidity of the Himalayan lowlands."

So, likewise, does philosophy "reflect the *social* conditions from which it has arisen and of which it is a part." "In the same way that we speak of eighteenth-century literature, dress, or modes of travel, we may speak of eighteenth-century philosophy." This may be a sound thesis, but the reader will have to take it mostly on authority. It is not really developed argumentatively in the book, nor is it even illustrated on any considerable scale. *Political* and *religious* situations are referred to with more or less success to account for certain philosophical systems—the idealisms of Plato and Berkeley, for example—but the actual bearing, the conditioning relations, of other social or anthropological phenomena on any actual philosophical development is only remotely indicated. Surely it is a far cry to connect Descartes's "thinking substance" with the Orphic religion and his "extended substance" with the Olympian element in Greece. Indeed, could it well be otherwise? Is it feasible to establish such non-obvious relations in a small *introductory* book? Does not the nature of the undertaking require that the reader should be already acquainted with the phenomena—the philosophical conceptions—to be accounted for? The extensive backgrounds sketched as the conditioning environment of philosophy are rather factors which have shaped more or less *all* culture—science, law, art, *etc.*—as well as philosophy; and commonly their influence in this field is much less evident, and probably less potent, than in other directions of human interest. The author virtually admits this when he quotes approvingly the remark of Seth that, "national characteristics are never so strongly marked in science

and philosophy as in other branches of literature, and their influence takes longer in making itself felt," a principle which finds illustration in the connection which the author makes between the empiricism and pragmatism of the English and their insular situation, with its premium upon individual enterprise and experience—perhaps his most successful attempt. The influence of the British national situation is much more evident upon its commerce, industry, and politics, than upon its philosophy.

Professor Cunningham will have us believe that Plato, being embittered by the Democracy's treatment of Socrates, "set about consequently with the definite purpose of showing that *individualism* and *change* are *philosophically unsound*." This may account for Plato's course in Athenian politics; but can it be the full story of the motives of that many-sided thinker—a man whose ideas after twenty-four centuries are still potent in politics, ethics, and theology? Moreover, as one reads he wonders how much idea the new student will get of Plato's actual teachings. Of the very few of these that are referred to, the author tells him (quite properly) that the Platonic Ideas are not thoughts—but types—the patterns "after which all particular things are made." The teleological position and function of the Ideas is not mentioned; so that the student, so far as he grasps the teaching at all, is likely to conceive of Platonic idealism as a set of plans regarded as employed by a divine architect, rather than as a posited system of goals toward which all becoming is striving, however imperfectly. Such a conception, of course, leaves the perennial vitality of Platonism an enigma.

One's feeling of inadequacy is heightened when Berkeley's idealism is accounted for entirely on religious grounds—as the attempt of a zealous defender of the faith and opponent of science to overcome materialism by showing that all material objects (so-called) are mental phenomena and therefore the creations of spirit, which is the only substance. That this was a secondary interest of Berkeley's is likely enough; but to find in it his main purpose is to forget that he developed his system when he was a young man, and long before he became a bishop. It is to overlook the fact that theism did not in Berkeley's day cry out for a defender, the dominant philosophies of Descartes and Locke being staunchly theistic; and to overlook, also, a situation especially significant in this connection, namely, that English materialists almost to a man were theists. Even Hobbes argued for the existence of God, and called himself a Christian. And again the question arises whether, in the analysis of Berkeley's motives and methods, the student will feel the force of that thinker's actual contention, and the seriousness, intellectually speaking, of the problem of existences independent of any knowing mind.

When the author comes to Kant and objective idealism even political and religious conditioning agencies begin to yield to purely intellectual ones, religion being but one of the four shaping influences discovered in Kantianism, the others being intellectual, and the political and social situations of the time not being considered at all. (And, by the way, why should Kant, with his agnostic emphases, be chosen as the representative of objective idealism? After his exploits in the field of pure reason can he be thought of as admitting to the status of realities and objects of knowledge ideas described as independent of the individual mind?)

The concluding three chapters of the book are devoted to the influence of the theory of evolution on all departments of thought—of course, a purely intellectual conditioning factor.

It should be added that Professor Cunningham writes in a clear and forcible style; that he gives many evidences of wide reading, often makes apt characterizations, and withal commonly takes view-points which appeal to readers of empirical and pragmatic leanings. As he sees it, for example, one fundamental but double-faced question arose out of the heterogeneity of the Greek population and the changefulness of Greek political affairs. Externally it was the query, "Is there anything *permanent* in the universe? Is there a common principle that runs through all the differences that man perceives?" The new political and social situation following the Persian war, with its new individualistic outlook upon life, turned to light the reverse, or internal, face of the question, namely. "Is there a principle in *man* which is abiding and permanent, and which is common to all men?" "Both questions arose necessarily from the very conditions of Greek life." They are the same "but directed toward a different subject matter"—"one, the problem of the outer world; the other, the problem of the inner world: one, matter or nature; the other, mind or soul." The second of these, with its inescapable *homo mensura* doctrine, becomes the tap-root of the main divisions of modern philosophy. "Is man the measure of truth? This raises the problem of *logic* and *epistemology*, or of knowledge. Is man the measure of *right* and *good*? This, in turn, raises the problem of *politics* and *ethics*. Is man the measure of the *beautiful*? This is the problem of *aesthetics*. Thus out of the teachings of the sophists . . . came, in part, the first formulation of the . . . fields within which discussions of a philosophic nature would take place."

Another interesting example of the author's view-points is his account of the animus of the Hellenistic ethical and religious schools. In those stormy days the individual man, finding "the world had got the better of him," sought "to get away from the world of the

object to the world of the subject." He had the belief that the world within was his own, and that he could there find life abundantly." Man, "when the situation gets the better of him," "quits thinking and becomes a poet, romancer, or mystic. Man generally becomes Orphic in his tendencies at the point of loss of control over the facts of his social and political life." Plotinus, for example, represents people who "have lost in the battles of life," and who "fall, like the Oriental and the primitive man, before the powers as a worshiper, rather than an investigator."

It is in his treatment of empiricism and evolutionism that Dr. Cunningham shows the fullest appreciation, and makes the justest comments, no doubt because the pragmatic interest and the interest and the instrumental conception of knowledge are most congenial to him. Like Locke, he "sees in philosophy a method of making a better world. He believes that the idea of creation which we have sketched here [the instrumentalists' idea] gives man a vote in the affairs of the universe, . . . encourages him to attempt things 'unattempted yet in prose or rhyme,' inspires him to the creation of 'more stately mansions,' and to the forsaking of his 'low-vaulted past.' He believes that the days of authority are over . . . and he offers this dynamic universe as a challenge, . . . a universe to be won or lost at man's option, a universe not to fall down before and worship . . . but a universe to be controlled, directed, and recreated by man's intelligence."

One lays this suggestive book down with the feeling that the author might well employ his learning and insight to better advantage than that of searching out the influence of primitive man's initiation ceremonies upon, say, the *Critique of the Practical Reason!*

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JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW, July, 1919. *The Social Significance of Education* (pp. 345-369): H. W. WRIGHT.—The three conceptions, language, invention and art, conceptions deduced from a study of the content of perception in its early phase as revealed by evolution, furnish appropriate ideas for an interpretation of the educational process. Education should aim at rational communication (language), cooperative industry (invention) and emotional concord (art). *The Logic of Cosmology* (pp. 370-378): BENJAMIN IVES GILMAN.—Expressed on one sentence: "Either there is no such thing as soul, in which case, since gravitation stops when I've gone by, the

All of things is not a Cosmos; or there is nothing else than Soul; in which case the All of things is at once a Cosmos, and potentially tripartite." *The Descriptive Method in Philosophy* (pp. 379-390): D. T. HOWARD.—A criticism of the pragmatic theory of knowledge as set forth by Dewey. Concludes that the descriptive method is not an exact account of "immediate experience," is not as definite as it is claimed to be, and is untenable in the light of all of the facts of experience. *The Function of Intuition in Descartes' Philosophy of Science* (pp. 391-409): JAMES L. MURSELL.—Descartes' interest was not metaphysical, as has been traditionally held, but scientific. His doctrine of intuition is not metaphysical, but arose in connection with scientific methodology. Intuition as a scientific instrument of method originates the epistemological inquiry as to objectivity and externality. *Reviews of Books*: Edward Gleason Spaulding, *The New Rationalism: The Development of a Constructive Realism upon the Basis of Modern Logic and Science, and through the Criticism of Opposed Philosophical Systems*, EDWARD L. SCHAUB. Bernard Bosanquet, *Some Suggestions in Ethics*, A. S. FERGUSON. Benedetto Croce, *Teoria e storia della Storiografia*, ALLAN H. GILBERT. *Notices of New Books. Summaries of Articles. Notes.*

THE PHILOSOPHICAL REVIEW, September, 1919. *Philosophy in France, 1918* (pp. 443-465): ANDRÉ LALANDE.—Contains a summary of the chief philosophical and psychological writings of the year. Notes the death of two striking figures, Jules Lachelier and Gaston Milhaud. *Platonic Pluralism in Esthetics* (pp. 466-478): HELEN HUSS PARKHURST.—Starting from the position that human beings are temperamentally different, she writes states, critically examines and rejects the theory of art attributed to a comment made by Flaubert that "for every idea, every inward vision of the beautiful, there is but one name, one perfect epithet, the task of the artist being the quest of this unique word." *On Nietzsche's Doctrine of the Will to Power* (pp. 479-490): G. WATTS CUNNINGHAM.—Enquires whether Nietzsche's doctrine of the Will to Power, the basic doctrine of his philosophy of life, can logically support the individualism built upon it. Concludes that it can not. Believes that "in principle, the Christian ideal of the 'brotherhood of man' . . . is more nearly consistent with the doctrine of the Will to Power" than the ideas set up by Nietzsche. *Manichæan Tendencies in the History of Philosophy*. (pp. 491-510): HENRY NEUMANN.—Designating as Manichæan, "(1) the belief that there are two distinct principles, good and evil, in active conflict, (2) the assumption that the good principle is limited in power, (3) the prominence given to the struggle against evil

in human life as related to the cosmic conflict," traces the expression of such views in the history of thought from the earliest times to the present. *Reviews of Books*: George Plimpton Adams, *Idealism and the Modern Age*, J. E. CREIGHTON. Wilmon Henry Sheldon, *Strife of Systems and Productive Duality*, GEORGE P. ADAMS. Henry Fairfield Osborn, *The Origin and Evolution of Life*, J. E. BOODIN. William Ralph Inge, *The Philosophy of Plotinus*, KENNETH SYLVAN GUTHRIE. *Summaries of Articles. Notes.*

PSYCHOLOGICAL BULLETIN, September, 1919. *Child and Educational Psychology Number*, edited by B. T. Baldwin. *General Reviews and Summaries: Child Psychology* (pp. 299-315): D. MITCHELL. - Sixty-four references, all in English are reviewed. *Educational Psychology* (pp. 315-335): C. TRUMAN GRAY. - One hundred and eighty-seven references are mentioned. Interest in educational tests continues. There is a rapidly growing interest in general intelligence tests as a basis for educational procedure. Considerable attention is being paid to educational diagnosis and prognosis. The references are grouped according to (1) text books, (2) monographs, (3) various forms of mental activity, (4) certain educational problems, (5) elementary and high school subjects. *Special Reviews*: Lewis M. Terman, *The Intelligence of School Children*: LOUISA WAGONER. R. R. Rusk, *Experimental Education*: H. J. PETERSON.

Blood, Benjamin Paul. *Pluriverse: An Essay in the Philosophy of Pluralism*. (With an introduction by Horace Meyer Kallen.) Boston: Marshall Jones Co. 1920. Pp. xlv + 263. \$2.50.

Dunlap, Knight. *Personal Beauty and Racial Betterment*. St. Louis: C. V. Mosby Co. 1920. Pp. 95. \$1.00.

Evans, Elida. *The Problem of the Nervous Child*. (With an introduction by C. G. Jung.) New York: Dodd, Mead & Co. 1920. Pp. viii + 299. \$2.50.

Hasse, Heinrich. *Das Problem der Gültigkeit in der Philosophie David Humes: Ein kritischer Beitrag zur Geschichte der Erkenntnistheorie*. München: Ernst Reinhardt. Pp. 192. M. 14.30.

Vaughan, Victor C. *Sex Attraction*. St. Louis: C. V. Mosby Co. 1920. Pp. 44. \$.50.

NOTES AND NEWS

WE acknowledge the receipt of the first issue of a new quarterly journal of philosophy, theology and literature, entitled *The Personalist*. It is edited by Professor Ralph Tyler Flewelling, of the

Department of Philosophy of the University of Southern California, and is published by the University at Los Angeles. Judging from the initial number of this quarterly, it would appear that it is devoted to the promotion of that particular philosophical attitude which Professor Borden Parker Bowne represented. Under the title "To the Gentle Personalist" the editor makes the following appeal:

"In his last public address Dr. Bowne said something about his work being done. To the students whom he had taught to bend the bow and aim the shaft he left the remaining task.

"Since those words were spoken ten years have passed. With the passage of years the significance of his thought has grown upon us as the proportions of a mountain clear themselves with distance. The effect of those teachings, however, can be perpetuated only as they enter into the living thought of to-day through living channels. On this task many men have been working disconnectedly and fragmentarily. It is now time to furnish a focus for the perpetuation of that wisdom which has meant so much to us. Bowne would have been the last of all of us to wish the slavish perpetuation of his teaching or interpretations for he was no literalist, believing rather in the inspiration which giveth life. Is not the personalistic interpretation of life worth magnifying? Will you do your share by subscription, voice and pen? The line of action is clear.

"To other Personalists it may seem worth while to perpetuate the theistic and personalistic type of philosophy. So far as we know this is the first undisguised attempt in this form to provide a nucleus for such thinking. Will you share with us the labors and responsibilities? Doubtless others could have done it better, but someone must needs start."

Another new quarterly of theology and philosophy is *Gregorianum*, which made its first appearance in January of this year. It is published by the professors of the Pontificia Università Gregoriana at Rome, with the collaboration of certain professors of the Compagnia di Gesù. Like the *Revista di Filosofia Neo-Scolastica*, it is devoted to scholastic philosophy, but it will differ from the older review in emphasizing speculative and critical subjects, rather than scholarship and research.

ARRANGEMENTS are already under way for the next annual meeting of the Eastern Division of the American Philosophical Association. At the invitation of the President and Department of Philosophy of Columbia University the meeting will be held in New York from December 28 to 30, 1920. It is hoped that the central

location will make possible an unusually large attendance. The subject for discussion which was chosen at the last meeting of the Association was "The aims and methods of teaching philosophy." The Executive Committee feels that the Association in choosing this topic did not wish a discussion on the contents of courses or methods of conducting class exercises, but rather a consideration of the broader field of the relation of philosophy to college education and the whole life of the nation. It accordingly proposes that the topic be restated as: "The rôle of the philosopher in modern life, with reference both to teaching and to research."

A MEETING of the Aristotelian Society was held in London on March 22, 1920, with Professor Wildon Carr in the chair. Mr. Clement C. J. Webb read a paper on, "Obligation, Autonomy, and the Common Good." He contended that the notion of obligation, in which Kant rightly found the essential feature of our moral consciousness, can not be directly derived (as Green seems to suppose) from the notion of a "common good"; that on the contrary the notion of a "common good," as also the closely connected notion of a "general will," derives its significance for ethics, and eventually for politics also, from its connection with the notion of obligation: and that this makes it necessary for any truly ethical conception of the state to retain the idea of "authority," as ascertained indeed through the general will, because only thus can it be recognized as authority *viz.* the community for itself; not however as in itself merely the result of the general will, but as the expression of an absolute factor therein, which perhaps may be best described as the sovereignty of God. To the thought expressed in Kant's choice of the word "autonomy" to express the status of the good will may be traced along one line of descent the anti-authoritarian tendency in contemporary ethics and politics.

AN international meeting of British and French philosophical societies will be held at Oxford, England, September 24 to 27, 1920. An invitation has also been extended to the American Philosophical Association and it is hoped that some representation from both the Eastern and Western Branches of this body can be arranged, although the date of the meeting precludes a very large attendance of American philosophers.

DR. ALBERT G. A. BALZ, of the University of Virginia, has been promoted from associate professor to professor of philosophy.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE PROBLEM OF PHILOSOPHY

ANY man who is more than ordinarily reflective is likely to be called a philosopher. If he is to give distinction to the appellation, whatever special abilities he may manifest, he will have the capacity to relate the experiences of his life and of the lives of others to principles, for him, at least, fundamental. Where these principles come from is not always evident. They may be adaptations of the dogmas of religion; they may be personal interpretations of the basic laws of science; or they may be intuitions that arise somehow in the course of observation and study. In any case they are there and require attention. For one who is interested in human behavior, there is perhaps nothing that is as important to know with respect to an individual or a social group as the set of fundamental principles from which its thinking starts and to which it returns; the basis of its judgments in politics, art, morality and religion. Without such knowledge the conduct of any of the larger enterprises of life can not be understood, and without deference to such knowledge conviction can never be produced on any matter of importance. Facts may be important, but the background to which they are assimilated is equally so.

A good background is not easy to attain. Sets of principles have a most pernicious trick of failing to be consistent, of requiring elaboration or supplementation, and above all of demanding substantiation. The game of playing with them may become very fascinating. The result is that many a young philosopher loses himself in the game and, starting from a very meager basis of experience and knowledge, expends his whole energy in trying to get his materials, however scant they may be, into shape. His contact with life may be slight, and if he ever succeeds in getting back to the world men live in, the facts of life show him infinite puzzles. To be sure, he brings with him a system, the product of intense mental labor. But he also brings narrowed vision. Not only does he fail to understand what does not fall within his scheme but he actually does not see the rest of life. Vision is not the mere act of looking but involves prepa-

ration, as every one knows who has looked through a telescope, a microscope, or been present at a dissection in a biological laboratory. Such a philosopher will see nothing that does not fall within his scheme of things and deny whatever threatens to wreck it. Like the spider, he may continue to spin his web but the materials are drawn from his own entrails, and the result is likely to concern no one but himself, unless some unwary fly is lured into the mesh. It is almost impossible to give up a system when attained, the labor of attainment has been so great, and construction goes on for the fun of creation. Hence there are voices that cry, philosophy must not be a system.

But it is hasty to conclude that philosophic systems are undesirable or that philosophizing is a narrowing activity. If a philosophy is something to live by, and living requires coherent purposive direction, it is implicit that philosophy must be systematic. It is a limitation, but only in the sense that all organization of ideas or materials is limitation. The humanitarian is limited in that he can not be a crook, and the paper mill in that it can not turn out submarines. This sort of limitation is the essential condition of achievement. But a system need not become rigid and incapable of growth or improvement. Like other works of man a philosophy can live only amongst those who want it to live. Changes in scientific knowledge, social conditions, or human aspirations will render it obsolete unless it contains within itself some principle making it capable of adaptation to them. In general, the more rigid the system, unless its factual basis is exceptionally rich and fortunately chosen, the narrower the circle of those to whom it will appeal and the shorter its productive life.

The anti-metaphysical philosophers have felt the force of these objections and exaggerated them into a wholesale protest against metaphysics, or the systems of fundamental principles. They have striven to safeguard themselves, not by avoiding principles, but by adopting them from the sciences. Their selection, however, is often rather casual and the result is a philosophical fragment. Sometimes, despite themselves, their materials crystallize into a system of which the only claim to be anti-metaphysical is that it is opposed to some other system with which they have taken issue. It is best, then, to acknowledge the fundamental human need for a systematic integration of ideas but at the same time to realize that the order of discovery is not the order of exposition, that principles can not be grasped *a priori* to the facts that they must interpret. In other words, the best situation is one in which the background for our judgments remains somewhat plastic while the details of its implications are being

worked out and tested by life. For the thinker, his metaphysics can not be first established and then his programme of life unfolded, but the two grow together into an integrated coherent whole. His philosophy is then inductively and not deductively established. Though it may lose thereby in archetonic perfection, there is more than adequate compensation in its consequent vitality. The idea of system may be always present though the actual system lacks the finality of an absolutism.

To many men the above remarks will sound rather silly. They will say, a philosopher is after the truth and if he can attain it there will be no more talk of system or not system; there will be no more philosophic disagreements, but a philosophy everlasting. It is not a choice but a necessity that lies before us. Of course, they will add, from the very nature of the materials, philosophic truth is very difficult to obtain. It may have to wait upon the perfection of the sciences and philosophy can not look forward to the utopian state in an immediate future. The history of philosophy is a long record of errors but—and this is the egoism of every new generation—we are at last on the right track and shall end nearer the goal than our forebears.

Others will object on the grounds that the present day is replete with diverse philosophies. They read the situation as hopeless. If philosophy can not find the truth, is it not better to give up speculating and content ourselves with the tasks of daily life? When the true answer remains forever hidden why ask of the whence and the whither? Philosophy to be worth while must have the truth, but since it can not get it, it is better to leave it and its problems entirely alone. If a man must have some guide to avoid accepting life with stultified intelligence on the level of the vigorous play of the lowest and most animal impulses of human nature, there are always the religious mystics. Here, though the disciple may remain in ignorance, his cravings may be in part satisfied by a conviction that to the elite of the sect all things have been made clear. We are so used to the authority of experts, our doctors, our lawyers, our mechanicians, that it is easy to feel that we can hire our philosopher or our clergyman to put us straight also. Where the truth can not be found, at least by the layman, to affiliate with a prosperous sect seems an easy refuge. If its master knows it all, all is well.

Both of these objections rest upon a misapprehension of the real nature and mission of philosophy. The latter fails to note that philosophy is a sort of mental hygiene. To leave it in the hands of a philosopher is like rejoicing in the strength of a Sandow while we ourselves waste away of inactivity, or vaunting our cleanliness be-

cause our doctor takes daily baths. An attitude toward life is not a thing that can be borrowed from some one else, but must be individually achieved by integrating impulses and desires with knowledge of fact into a consistent programme of action. It is essentially an acquisition of healthy-mindedness, and most men are afflicted with the ailment for which philosophizing is the remedy. Philosophizing is a personal need and, like proper exercise, is an individual matter dependent upon mode of life, environmental conditions and inner state. The man who has not a philosophy lacks a coherent character and through mental conflicts is wasting in futile frictions those energies that ought to be expended in full freedom of living. The philosopher by occupation, like the physician, can not effect a cure by the extent of his own knowledge, but only by what he can stimulate his patient to do for himself. As a man may become well by his reaction to those things with which a skilful physician brings him in contact, so he may be aided to find himself through reacting to the reflections of a philosopher.

It is nevertheless true that there are right and wrong ways to philosophize. The universe is not perfectly fluid but confronts us with facts that have to be taken into consideration. Human nature also, although it may present wide diversities, has its limitations. No philosophy can be wholly sound that substitutes either dreams or illusions for these facts. There is no healthy-mindedness in the dreams of the Lotus Eaters, and no intrinsic value in fool's gold. But it does not follow that there is a single authoritative philosophy which this or any other age can discover that will be authoritative for all time. Philosophy is too close to life to admit of such schematization. Let us suppose that science has realized its ideal and that every phenomenon, psychological, sociological, and physical, can be subsumed under its specific laws. It would follow that every situation, with or without human participation in it, could be understood. The causes that brought it about and the consequences that must spring from it could be grasped. In particular instances we could foretell whether individual men would seek or avoid these anticipated consequences. We should know what ideals they held and how they came to hold them. But we should also know that they would not hold the same ideals or seek and avoid the same things. They would have different philosophies. Only if by some system of super-eugenics and super-education all human organisms could become exactly alike and be placed in identical environments would the same reactions take place and a single philosophy hold. Nature nowhere exhibits such identities of complex forms, and there is no ground for believing that men will ever seek such unanimity, even if they should come to have sufficient knowledge to attain it.

But even here our principle of the limitation of possible variations holds. To assert that there is no possible absolute and universal philosophy is not to assert that every variant of the philosophic form is a good thing. Variation within species seems to be the necessary condition of biological evolution, but some variations are monsters and accomplish nothing. So with philosophies. Those that arise from knowledge of facts have a claim to respectful hearing and their variety may be a healthful stimulus productive of new ideas. But those built on fictions and confusions take from man his capacity for the intelligent conduct of life, a capacity the extent of which is his one claim to be considered as distinct from the brutes.

Herein lies a fundamental difference, too little understood, between science and philosophy. Philosophy starts from the truths with which science ends, but its purpose is not merely to cite or to systematize. Scientific truths are instruments which transfer the control of our action from present facts to anticipated consequences of action. The perspective which philosophy introduces should serve to integrate these responses into a coherent life, a condition perhaps best described as healthy-mindedness. For science the fundamental category is description, and its measure of success the accuracy and extent of the predictions it makes possible. Where the scientist seeks discoveries, the philosopher makes interpretations. The former aims to make the control of nature possible and the latter to point out desirable directions in which this capacity to control may be directed. Philosophy can not exist without science, and science loses its significance without philosophy. In the strict sense, then, there are no philosophic truths, but only scientific truths. When these are utilized to suggest or clarify a reasonable and desirable mode of directing human life they constitute a philosophy. If philosophy is called true, the meaning of truth undergoes a transformation. While scientific truth is tested by verified predictions, philosophic truths stand or fall with the presence or absence of satisfaction resulting from a life lived in harmony with them.

It is worth while to note the procedure of science a little more concretely. We have said that the fundamental category of science is description, but all description is not science. Scientific description involves selection. If an intelligible world is to arise from the "blooming, buzzing confusion" of infantile experience, it must be that some buzzes can be singled out from the rest, identified, and named. If the selection is made in the proper way for scientific purposes experience demonstrates that the character and occurrence of other buzzes can be predicted from them. It is not sufficient that science shall discriminate objects but it must make its discrimina-

tions in such a way that they can serve as a basis for predictions. We grasp our world by samples, but samples are worthless unless indicative of the character of that from which they are drawn. It is not mere facts but significant facts that must be formulated descriptively as a basis of science.

The possibility of science lies objectively in a certain character of reality that makes it possible to analyze the world into entities that may be treated as discrete. Nevertheless all talk about their ultimate independence is an abstract fiction, since they are never found except in conditions of interdependence with the rest of reality. We conceive reality as some sort of a complexly differentiated whole, but as no one has as yet been able to draw any momentous synthetic conclusion about this whole, it remains for thought a totality rather than an unity, and pluralistic philosophies present the best empirical credentials.

From the study of the parts of complex objects, such as the bark, wood, sap, leaves and branches of a tree, we are able to draw synthetic conclusions as to the fundamental character and results of the tree's growth; we are tempted to apply the same type of procedure to a synthetic conception of the universe. Some have even gone so far as to make such statements the fundamental aim of philosophy. But, if the task were possible, it would still fall within the province of science, and at present our analysis is far too incomplete and our detailed studies far too meager to hope for success. We should have as materials only somewhat vague and general indications from the astronomer, geologist and biologist, too incomplete to enable a conception of the universe to take a place in any way comparable with that of the growth of a tree. The nearest approach to such an idea is expressed by evolution, but evolution, strictly understood, means nothing more than descent tracing and is but a way of confirming the same sort of unity of the whole through time that the interdependence of contemporaneous entities gives for space, that is, the possibility of studying a cross-section of reality in another dimension.

Because man has achieved a measure of success in science and is able to make predictions with some degree of accuracy, he has an instrument by which he can maintain a certain degree of mastery over his future. Futures that he does not like he often forefends by introducing or removing factors of the situation which science shows will result in them. Desired anticipations are often obtained by producing the conditions from which they will arise. But, be it noted, science never says *what* he must seek or avoid. The scientific function has been fulfilled when the capacity to predict results has

been attained. Strictly speaking, there is no reason why a child should not eat a gallon of ice cream at a sitting or a man leap from a thousand-foot cliff. Science can merely say to the child, you will be ill; and to the man, you will die. If the child replies, Why should I not be sick? or the man, Why should I not die? science can only go on to state the further consequences and conditions of sickness and death. It is safe to predict that in these instances an avoiding response would be immediately given to these consequences, if they are understood, but that statement itself is merely a prediction based on observations of human behavior.

There remains, then, an important class of questions that science does not directly answer. Desires are the mainsprings of human action and these questions concern the integration of these desires into a coherent group that can furnish a background for healthy and effective living. It is necessary first to penetrate beneath the more obvious desires. These are usually enumerated in terms of immediate satisfactions such as health, economic independence, or more generally, happiness. Philosophies have been built upon them, but such philosophies are peculiarly unsatisfying. It is an interesting and by no means easy task to find out what it is that men actually desire, for ends are not as simple as the language in which we express them. Thus the pleasures and luxury of wealth may inspire the imagination, but its attainment may carry with it care, worry, ill health, separation from old friends, and a hundred subsidiary conditions that in unhappiness more than offset positive gains. Above all, in attaining ends, human nature may become so transformed that the end is by no means the all-sufficient satisfier that it appeared to be at the start. But these things will vary with individual cases. The very phrase "what men desire" is itself a confusing generality, for there is no one thing that all men are bound to desire from their nature as men, and the many desires of an individual man can hardly be summed up under the simple phrase "a man's desire."

The comprehensive problem of philosophy is to find integrations of these many individual human impulses that shall be compatible with the facts of reality that are beyond our control. Such integrations express themselves as ideals. The entire structure is founded on science, for we can not tell what may be unless we have scientific understanding of what it is. A sufficiently developed science can tell us what ideals are practicable and can elaborate the results of their realization. It may even foresee how individual men will react to alternative ideals, to seek or avoid them. It is essential for a philosopher to choose and to justify his choice. Science may study him and his choice, but the choosing is not a part of science. In

other words, while the fundamental category of science is description, the fundamental category of philosophy is action. Scientific results are authoritative and final truths, where science has been successful. They make possible verifiable predictions. Philosophic results are inspirational and win approvals. But neither can stand without the other, for while, in the last analysis, philosophically established ideals are the ultimate justifications for the directions in which the labor of scientific research is expended, science is the cornerstone upon which philosophy must build if its ideals are to have rational appeal, that is, if they are not to lead merely to disillusionment.

The first problem for any philosophy is a careful consideration of the structure and nature of the world we live in and of our relation to that world. While there is a certain plasticity about human nature and the physical world, of which we take advantage in adapting environment to our needs and ourselves to inevitable environments, that plasticity is not without its limitations. To neglect these limitations is to indulge in mere utopian speculation. The foundations of philosophy are those established principles of science which tell us most about the potentialities of the world and of man. Realistic and empirical philosophies accept them, idealistic philosophies seek to transcend them, and mystical philosophies deny their validity. As a result mysticisms have had to take refuge in vague faculties of intuition, the very existence of which, in the mystic's sense, is in question, and ontological idealism has never demonstrated the possibilities of transcendence. At best, the result is a sort of poetry to be valued from its emotional appeal only. To the man who would know where he is going, the empirical and realistic type of procedure is the only one our present knowledge can justify.

The orientation of a philosopher with respect to scientific principles is what really constitutes his metaphysics. He can make no factual discoveries that science has not made. He can not criticize, correct or transform knowledge that has been worked out in close relation to data and has meaning only in so far as it furnishes a verifiable interpretation of that data. He differs from the student of applied science in that while the latter is seeking immediate applications of scientific principles to the production of specific things or conditions that are desired, the former seeks light as to the general conditions under which greater congeniality or mutual fitness can be attained in human relations and the relations of man to his environment. While the philosopher might seek to sanction craftsmanship as the ideal of productivity, or economic gain as the basis of industrialism, the applied scientist seeks the means of attaining the

accepted end but not the sanctions that justify that end. Both utilize scientific discoveries, the one to exhibit an end as possible and desirable, the other to perfect the means for attaining it.

While philosophy consists in the act of accepting ends, its intellectual elaboration lies in the construction and evaluation of these ends. Consider its various branches as examples. If we enter the field of logic, the first question that confronts the philosopher is what should we seek to do with our capacity for thinking. The blanket answer, arrive at knowledge of the truth, requires definition. We must understand the nature of thinking and the ends it is possible for it to attain. This knowledge is scientific. We learn that thinking is not an invented process, but a name given to certain moments selected from the whole process of response. The selection may vary according to the ends sought. Thus processes used to reinforce an emotional satisfaction such as may be obtained from a religious belief may be called thinking. This involves concentration on facts of a certain sort and the concatenation of them in a particular way. The history of philosophy from the early Christian era is replete with such efforts. As they have a specific aim, they require a special ordering of mental process, and the result is a philosophic technique that attained its highest perfection in scholastic logic. The mental functions that are here integrated and designated as thinking are a special selection that determines its own method and definition of truth.

The Greeks had little power to reconstruct nature, hence felt the need to accept things as they are. As a result nature for them was resolved into essences and their logic was one of categories and of deduction. The striving for truth became the effort to separate things by kinds and develop relations of genus and species. But the modern man is inspired by a heightened consciousness of his capacity to master nature, and perhaps himself. He feels himself captain of his soul and master of his world. Consequently, for him those mental processes constitute the essence of thinking that make for increased success in prediction. He extends his mind by laboratories and apparatus, thus attaining a new logic and new conception of truth.

The question as to which logic is correct can not be categorically answered, for the question itself is obscure. Each is successful in its own field. Passive acceptance of what is, and resignation to contemplation, is generally repulsive to our contemporaries. Nor do they care to wait for the will of God to realize itself in the world or to cultivate the aloofness of the hermit. To them life is an adventure and one for which the responsibility must rest on their own

shoulders. Their logic is accordingly the logic of foresight, and philosophy easily takes the form of an experimentalism. What is needed is that experiments should have intelligent direction. There is a wide difference between those who experiment for mere experiment's sake, the vagabond adventurers of life, and those reflective enough to utilize experimentation constructively. This change, however, merely indicates a shifting of interest and of ideals, but in no way demonstrates an inadequacy of other types of logic for the ends for which they were formulated.

The first act of a philosopher, then, in considering the fields of art, morality or religion is to determine the ends which he demands that these achievements severally fulfil. Since the end must be possible, it can only be formulated on the basis of scientific knowledge as to rational expectation; and since the end must be desirable, it must be formulated with respect to the actualities and potentialities of human nature. These also must be learned by science. But the fiat is not learned but given as a reaction to an anticipation, and since human nature is diverse, the fiat will not always be the same. The conceptions that bring about the greatest integrations of personality and adjustment to the world, for men in one stage of development and under certain environmental conditions, will be wholly inadequate in another stage and under different conditions. Hence philosophies will continually arise and pass away. They are not necessarily demonstrated false but become unfruitful and so uninteresting. The occurrence of technical mistakes in great philosophic systems are insignificant factors in destroying them as compared with new social or environmental conditions such as are encompassed by migration, political revolution, military conquest and scientific discovery.

The history of philosophy has, in consequence of the nature of philosophy, a very different value from the history of science. Scientific principles are either correct, in which case they are incorporated in contemporary science, or incorrect, in which case they are left behind as mistakes. The mistakes in science may be instructive from the point of view of the study of method but they have little general interest, though the kind of problems which scientists have set before themselves are interesting as revealing diverse interests by which men have been inspired. Philosophies, on the other hand, are nothing but revelations of human ideals, and are always in so far contemporary, for although the type of aspirations held by the majority of men in any age may change, almost every type is usually present. We have our Greeks and our Scholastics today. Indeed, in many respects, Plato and Aristotle are the most "modern" of all philoso-

phers, certainly more modern than men of the seventeenth century and far more so than the men of the thirteenth. The most striking difference lies in the background of the knowledge against which these great Greeks set forth their ideas, that is, in the materials through which the intellectual elaboration of their philosophies was worked out, not in the form of ideality which is the real essence of their philosophies.

Philosophies, from this point of view, fall into three parts: the first, in which the factual foundations are set forth and in which the rest is more or less implicit; the second, in which the ideal construction is developed and demonstrated as rational; the third, in which the programme for the realization of the desired order of life is laid down. This third part, however, is often left by the philosopher for others to supply. These parts constitute a metaphysics, a practical philosophy, and an applied philosophy. Each has its peculiar difficulties and problems.

The factual foundations of a philosophy are derived from an examination of the results of scientific investigations. The sciences analyze nature and man in terms of identifiable characteristics and systems of relations such that consequences of various collections of factors can be foreseen. But no one science is sufficient for philosophy. Sciences are originally differentiated merely as points of contact with the world from which investigations have started and from which they have often, as yet, not progressed very far. As they grow they tend to run together. When physics and chemistry develop, physical chemistry arises as a common field, and today the biologist, the physicist, the chemist, the geologist, and even the astronomer have many common problems. The logical result should be a single body of knowledge wherein the philosopher might find in the interweavings a sort of cosmic map on which his fundamental conceptions could receive orientation.

The necessary appeal to scientific principles as the background of thinking is the basis of the claim of some philosophers that their work is a critique of scientific principles, that philosophy is the science of sciences, or more poetically, that philosophy is the queen of the sciences. When a particular time has been dazzled by achievements in a single field, as Leibniz's was by mathematical physics, Diderot's by physiology, Bergson's by evolutionary biology, there is danger of a preponderant influence from the field in question. Sound metaphysics must beware of such influences and keep each within its proper perspective, however many new developments and suggestions the specific development in question may call forth.

The introduction of perspective into the collocation of scientific

results may create the impression that philosophy has introduced something new into science. This is an illusion, however, for the factual bearings of scientific discoveries must not become changed. There is no way of getting information from concepts when they are cut loose from the facts they were formulated to interpret. Philosophy can merely suggest ranges of facts to be examined and emphasize aspects of them essential to its purpose. The attempt to abstract concepts from their factual context involves us in the futilities of such dialectic as Herbert Spencer utilized to demonstrate the unknowable. His exposition of contradictions involved in the concepts of space, time, matter, motion, *etc.*, does not show that there is no reality for such concepts to represent, but rather that the form of development these concepts have undergone for scientific purposes is not adequate for the use he makes of them. A return to the basic facts makes his criticisms meaningless. A conception adequate for certain scientific purposes may not be adequate for others.

But, of course, the same man may be both scientist and philosopher. If versed in the methods and experienced in the facts of a science, he may make genuine scientific discoveries, but these are not philosophic discoveries, and they must also be distinguished from the pseudo-scientific discoveries some philosophers have put forward as the result of conceptual analysis and dialectic, discoveries that usually fall before the first attempt to give them empirical verification. Perhaps no less dangerous, in his own field, is the scientist's tendency to lapse into crude philosophizing. Where the philosopher may err by detaching scientific concepts from the facts that are their justification, the scientist may as easily fall into a justification of concepts by hastily accepted philosophic notions. No more flagrant example than the biologist's use of teleology need be cited.

When one has in mind a scientific interpretation of nature and man in their relations to each other the way for the second part of philosophy is prepared. If the foundation has been successfully elaborated there is disclosed a range of potentialities for man in the world he lives in. All these can not be realized, for conflicting lines of development are possible. Certain choices must be made and these choices react on each other so that a nice adjustment is necessary if the result is to be a true mental hygiene and fit the philosopher to face life with greatest courage and vigor.

In the first place there must be formulated some conception of the relation of man to the cosmos and the function he has to fulfil as man. The decision arrived at on this point fixes the type of religious thought that can be accepted, not the form of a dogmatic religion, though the conclusions may be such that such a religion is coherent

with them. It holds the philosopher within the bounds of deism, theism, pantheism, or even atheism, if the result is an apotheosis of universal and necessary law.

When this part of a philosophy is complete, the philosopher's general attitude toward life, the type of things he stands for, becomes clear. If he is not to become a mere Utopian, that is, if his metaphysics has not gotten away from realities, the result should appear as something that it is reasonable for a human being to desire. Fortunately there are groups of men sufficiently alike and in sufficiently similar environments, so that the result will rarely, if ever, be a purely individual achievement. Other men will at least find satisfaction in the same general type of thinking and may constitute a school, though they are never in perfect agreement. At least the types of logic striven for, the conceptions of the good approved, and the ideals of beauty valued will be closely congruous. The status of the second part of a philosophy is always determined by the first part, even though it be through the decision that logic, ethics, and esthetics must be developed on an independent empirical or rational basis, for this decision is itself a part of the metaphysics. In most cases, one may suspect, some moral or religious problem comes first into the philosopher's mind and the first part of his philosophy is developed to clear up problems so forced upon him. The order of exposition may reverse the order of investigation.

This part of philosophy is always idealistic in that it consists in the elaboration and critique of ideals. But it is not a part of the metaphysical idealism of history, for it does not require the effort to show that reality involves ideal strivings in its inner nature. Its ideals are rather practical plans developed on a basis of fact and pointing some condition to be realized that the philosopher, at least, considers desirable. They are not then contrasted with the real as something inherently impossible to attain. Just as the expression, "It is all right in theory but does not work in practise," is absurd because the failure to work means that facts have been misrepresented, overlooked, or contradictorily interpreted, and the theory is not all right; so the inherently unattainable ideal implies a similar abuse of data and is at best an emotionally satisfying picture. An ideal, however, may be of extreme difficulty to attain, may require a considerable number of preliminary tasks to be accomplished, and may represent an achievement beyond the attainment of one lifetime. In such a case it has value because it dictates the tasks to be accomplished now and gives direction to what might otherwise be a purposeless scattering of endeavor. In this sense only the practically unattainable may be accounted a rational goal.

But in defining this part of philosophy as ideal construction, it is not implied that the result must be finalistic. It may easily be an integral part of a metaphysics, based on a study of the natures of men, that the chief value in the attainment of any aim is to make possible revaluations and a new advance toward further attainments the character of which can not even be imagined until the consequences of taking the first steps are realized. Such philosophies are irreconcilably opposed to absolutisms and finalisms. They are genuinely "philosophies with the lids off."

The third part of philosophy is the formulation of a practical plan for the realization of ideals proposed by the speculative constructions of the second part. It is realized most concretely in systems of logic and of "practical" ethics. In connection with social philosophy, and perhaps esthetics, the demand for extensive and detailed information of particular sorts is often a stumbling-block to the philosopher himself if he attempts to work out this phase of his system with completeness and exactitude. All social reforms, however, are somebody's plan for realizing a condition set forth as desirable by a philosophy, and political reconstructions are similar plans. As a consequence of this cooperative authorship, they are frequently to be justified only by an eclectic advocacy of several philosophies. A genuine harmony between social practise and a single philosophy can hardly be attained until Plato's philosopher-king shall arrive, whether he be an individual or a democratic nation reasonably harmonized in its philosophy. There seems, however, from the evolutionary point of view to be something peculiarly precious about the preservation of individualities, even at the price of conflicts, perhaps for the very reason that conflicts occur, and one may be permitted to doubt whether the unified social philosophy would be, in the long run, a thing to be desired.

It must be emphasized that the division of philosophy into three parts is not to be taken ontogenetically. It is not the order in which a philosophy shapes itself in the mind of the philosopher. He is likely to begin with some glimpse of the second part, theoretical construction, to return from this to science to test its plausibility, then, learning unnoted or unknown facts, to modify his construction and play back and forth in this fashion, with occasional excursions into the realm of practise, until the first two parts of his philosophy and some sketch of the third have matured themselves together in his mind. When he is able to put the maturing system to work, even if limited to the scope of his own life, the interplay of parts is greatly augmented, with marked benefit to the whole. Unfortunately, the craving for order and plan are so strong with some men that they

do approximate in creation the formal order of exposition. They are the pedantic minds of history. But even in such cases there is usually a discrepancy between the end and the beginning. The third stage is most likely to actually follow the other two, if it is attained at all, and here again the attempt to find means of realization often reacts upon the ideas that it is intended to realize and results in their modification. Such reactions are beneficial and the lack of them is the source of the frequent uselessness of philosophers, rather than the unwillingness of the public to use them that Plato offers as an explanation of neglect.

Each part of a developed philosophy has its own specific types of error and requires a special type of criticism. With respect to metaphysics there are three frequent sources of error: relevant facts established by science may be overlooked, pseudo-scientific conclusions may be invented to fill undesired gaps in science, and the emotional appeal of some conclusion may lead to a false interpretation, misunderstanding or distortion of undenied scientific facts. Besides these, inconsistent reasoning is a minor factor in the systems of great men. When it occurs, the cause is usually preoccupation with some particular phase of a problem, or a shifting of point of view that has occurred in some long period during which the thought has been maturing, with neglect to make corresponding corrections in the foundations. Much difficulty in philosophic criticism arises from first entering the systems to be criticized by accepting their premises and then trying to burst them asunder by forcing inconsistencies to appear through misrepresentation of the philosopher's words, a procedure justly to be condemned. The most common course is an over-simplification of points of view, as in attempting to reject idealisms, realisms or mysticisms as a class.

It is to be noted, however, that the presence of any or all of these defects does not necessarily brand a philosophy as without value. At worst, it is merely not established, for, as every logician knows, the falsity of the grounds does not establish the falsity of the conclusion, but only destroys the claim to proof. Radical error, particularly of the type of distortion and neglect of fact, greatly increases the probability of failure. But the philosopher is always hungry for new scientific discoveries and if he seizes upon them before they are adequately established, he is abetted by the scientist who is equally prone to hastily assume philosophic worth for his ideas, with as weak comprehension of the real demands of philosophy as the most utopian philosopher can exhibit of those of science.

The second part of a philosophy is really the most elusive. It is easy to make a construction that it is not possible for human beings

to realize, or one that if realized would turn out to be not at all what was intended in its effects. In the first case the result is not a philosophy at all but a mere dream, soothing to the emotions, perhaps, but not unqualifiedly beneficial to the whole man since its unrealizable character will introduce conflicts into the demands of action. Such Utopias may have their place in literature as imaginary compensations for much that is drab in daily life and are harmless if not confused with demands for a practical programme. In the second case the danger lies in bitterness and disillusionment and, at worst, in social confusion and disintegration.

Unintended effects are easily introduced into a philosophy. We are in the habit of speaking of our actions in general terms and come to forget that we are really doing much more than our words imply. A man says he is looking for work, but the really important side of his action may be that he is rendering socially useful energies that might otherwise be turned to harm for himself and others, or he may be protecting his family from starvation or illness, or he may be on the road to some world-revolutionizing discovery. Similarly, a philosopher may believe that he is correcting some of the world's evils when he is really introducing other and greater evils in their place. Fichte or Hegel would hardly have intended the direction of German civilization that was derived from them. Our social philosophies only too often exhibit the consequences visioned by William Morris in the *Dream of John Ball*: "I pondered all these things, and how men fight and lose the battle, and the thing that they fought for comes about in spite of their defeat, and when it comes turns out not to be what they meant, and other men have to fight for what they meant under another name."

The moral is that in the present state of our knowledge no rigid speculative philosophy is possible or desirable. We can make clear some goals probably worthy of attainment, but our speculative philosophy must be rather an outline within which to work than an ultimate system. We can probably never wholly escape this situation, at least not until the scope of our psychological and sociological knowledge is extended vastly beyond the bounds of our present vision, but it is a foolish sloth for fear of present and temporary partial failure to neglect to utilize to the utmost the resources at our command. A perfect ideal construction would have to be based on a full understanding of all the capacities and possible forms of human nature and be so drawn that our many and diversified tendencies should be integrated into coherent, consistent and consequently frictionless characters, adjusted to the conditions of a social and physical environment, moulded, in so far as external facts admit,

to be congenial to it. As man is more plastic than inanimate nature, the brunt of such reconstruction must fall upon him, his social organization, and his capacity to shape nature to greater harmony with his needs.

Given an ideal construction, more or less perfect, and the third part of the philosophic task is set: to translate this into a specific programme of action. In our customs and institutions we see fragments of such philosophies at work. Unfortunately they are only fragments and the result is often confusion and conflict. Thus the consumer seeks to obtain from industrialism services that shall free him from the distracting activities of producing for himself a sufficient variety of goods to satisfy his manifold wants. His aim is liberation for specialization on some task that is congenial to his nature. Although he may not be conscious of it, his action is based on a philosophy that recognizes the importance of individual differences and the utilization of them to transfer to the race, or at least to a selected part of it, that self-sufficiency and completeness that primitive society left to the individual and biological analogy exhibits as characteristic of living organisms. To the workman, especially the unskilled laborer, his livelihood presents the most momentous question. His natural philosophy is that consequent upon the acceptance of the doctrine of the will to live and the struggle for survival, whether it take the form of elimination of the unfit, free competition, or of a banding together of the weak to wage successful war with the strong. The capitalist, on the other hand, transforms the will to live into the will to power. Mere livelihood is assured and the fuller scope of his activities demands domination over others with the imposition of his will and ideas. These three philosophies mean that the consumer seeks fundamentally plentiful supply and low prices; the laborer, high wages; and the capitalist, monopoly. The result is daily manifest in our civilization and expresses itself as class warfare. A comprehensive philosophy should harmonize these differences.

But this is only one problem. Our moral conceptions vacillate between an ideal of individual responsibility and of external regulation of an individual's conduct to force him to a common mould. In education, much vocational training is aimed at fitting men for jobs, that is, adapting them for niches that must be filled in our social organization, yet ideally, we talk about producing leaders who think for themselves, originate, create. In religion we hold to our dogma, extol the humble and praise the unworldly, yet, in practise, the humble are trampled upon, and the unworldly are neglected or merely the objects of a somewhat cynical wit.

Some contemplative minds, at the sight of these irrationalities of living, are tempted to wipe out the disturbing factors rather than to recognize them. Thus a philosophic anarchism is willing to eliminate not only industrialism but practically all social organization whatsoever. Conceptions of morality easily become exchanged for crude ideas of success or dropped entirely under the protection of the Nietzschean "beyond good and evil," with no respect, be it said, to Nietzsche's real meaning. Denials of the worth of religion, in practise if not in words, are too characteristic of our age to require comment. Education has been more successful in maintaining its hold, however its present forms are criticized. It is, perhaps, the one social achievement that no man raises his voice to abolish. Even this, however, is not true of higher education.

One fact remains pertinent: whenever these negative philosophies have had a chance to translate themselves into practise, be it on ever so limited a scale, the weakness of the negation has appeared. Anarchistic association requires voluntary agreements which have to be strengthened by training and social approvals until they approximate the enforcement of laws. Religious negations often end in an Unknowable such as Spencer calls God, to cite Mr. Bradley, because he doesn't know what the Devil else it can be. Rousseau's programme of uncompelled education consents to a sort of suggestive discipline and Nietzsche's verbal denial of morality turns into an advocacy of a more strict morality than the one he denied.

The real need, then, is not for a destruction of human achievements but for a consideration of them from a single point of view under which a greater degree of harmonization of their aims and consequences can be attained by intelligent discrimination. That is, they need to be related to a single philosophic background or metaphysics. Unreflectively, man tends to accept the wants he finds on the surface and it is only when he has had some experience in realizing them that he finds that they are not his true or deepest wants. From many such experiences of failure he comes to turn his reflections upon himself, his world, and the relations in which these stand to each other. Then he may start to accumulate knowledge and to integrate his desires anew. From time to time turned back by new failures, he persistently renews his attempt.

A moment of recognized defect in our life attitudes and in what we have sanctioned by them turns us into metaphysicians, seekers after fundamental principles. Hence the justification of considering a philosophy as an individual achievement functioning as a sort of mental hygiene. It absorbs the energy turned back by conflicts that obstruct our progress and redirects it in a manner to lend life

new energy that may swell the tide of further advance. And this achievement is not merely individual, for unity is after all constituted by the interaction of individuals on each other, and whatsoever adds to their energy and removes unnecessary friction between them contributes to the integration of the whole.

Contemporary American life particularly needs a working philosophy, for it is teeming with proffered means to ends in proportion as the consideration of the value of ends is lacking. The question, what it is really worth while for men to be about, needs far deeper consideration. The evidence is that so few will face it. The compensating activity is in being practical (?), in being too busy to think, even though this attitude is like that of a man nearing a precipice on a toboggan who should count his buttons to avoid the responsibility of steering.

It is then necessary, if a man is going to philosophize successfully, that he should reflect upon scientific knowledge in so far as it bears upon problems imposed by the act of living. At the basis of this act lies the need of orientation with respect to the cosmos in general. This orientation results in such conceptions as mechanism and teleology, and is largely the result of reflection upon the discoveries of the physical sciences. The result is important as defining the scope within which religious and moral ideals may develop fruitfully. From the study of biological conceptions comes the conviction as to the extent to which man must reckon himself an integral part of the cosmic structure and admit his dependence upon it. In psychological knowledge lies the understanding of his specific behavior as man and his potentialities of modification. With this knowledge the scientific background from which philosophy starts, its metaphysical materials, are complete.

The omission of the so-called social sciences from this list does not, however, mean that they are alien to philosophy. Quite the opposite. But these sciences include the results of the operation of human intelligence, desire and emotion among their data, and consequently their very data already incorporate the results of philosophizing. These sciences are no longer a part of a metaphysical foundation of philosophy but materials of its critical development. Human decisions can not affect the existence of the entities with which the laws of physical, biological and psychological sciences concern themselves. They can create or destroy the institutions and customs concerning which social laws may be formulated. We can not abolish atoms, solar systems or chromosomes by any philosophy, but endogamy, exogamy, tariffs, or capital punishment exist, as it were, only on philosophic suffrance. A society has a metaphysics,

however rudimentary, before it becomes the subject matter of science. And this metaphysics goes back to the natural sciences as enumerated above.

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STRICT IMPLICATION—AN EMENDATION

MR. E. L. POST, of the department of mathematics in Columbia University, calls my attention to an error in the development of the system of "Strict Implication," as presented in Chapter V of *A Survey of Symbolic Logic*. The postulate 1.8,

$$(p \supset q) = (\sim q \supset \sim p),$$

is equivalent to the pair,

$$2.2 \quad (p \supset q) \supset (\sim q \supset \sim p)$$

$$2.21 \quad (\sim q \supset \sim p) \supset (p \supset q).$$

Of these, 2.21, "If ' q is impossible' implies ' p is impossible,' then p implies q ," is false. It is consistent with the other principles assumed, but is incompatible with the intended meaning of the primitive idea "impossibility," and with the distinction of this from the idea of simple falsity.

Mr. Post's example which demonstrates the falsity of 2.21 is not here reproduced, since it involves the use of a diagram and would require considerable explanation. Suffice it to say that it is entirely convincing. His proof that 2.21 leads to the consequence

$$\sim p = \sim p$$

is as follows:

$$2.21: (\sim q \supset \sim p) \supset (p \supset q) \tag{1}$$

$$1.02: (p \supset q) = \sim(p \sim q) \tag{2}$$

$$1.02 \quad \{ \sim q/p; \sim p/q \}: \sim q \supset \sim p = \sim(\sim q \sim p) \tag{3}$$

$$(3), (2): (1) = \sim(\sim q \sim p) \supset \sim(p \sim q) \tag{4}$$

$$(1) \quad \{ (\sim q \sim p)/q; (p \sim q)/p \}: \\$$

$$[\sim(\sim q \sim p) \supset \sim(p \sim q)] \supset [(p \sim q) \supset (\sim q \sim p)] \tag{5}$$

$$(5): (4) \supset p \sim q \supset \sim q \sim p \tag{6}$$

$$(6) \quad \{ \sim p/q \}: p \sim (\sim p) \supset (\sim \sim p)(\sim \sim p) \tag{7}$$

$$2.51: (7) = p p \supset (\sim \sim p)(\sim \sim p) \tag{8}$$

$$2.81: (8) = p \supset (\sim \sim p)(\sim \sim p) \tag{9}$$

$$2.1 \quad \{\sim p/p; \sim p/q\} : (\sim p)(\sim p) \rightarrow \sim p \quad (10)$$

$$1.6 \quad \{(\sim p)(\sim p)/q; \sim p/r\} : (9) \times (10) \rightarrow p \rightarrow \sim p \quad (11)$$

$$(11) \quad \{-p/p\} : -p \rightarrow \sim(-p) \quad (12)$$

$$2.51: (12) = -p \rightarrow p \quad (13)$$

$$1.7: \sim p \rightarrow p \quad (14)$$

$$1.06: (13) \times (14) = (\sim p = -p) \text{Q.E.D.}$$

Since the distinction of "impossibility" from simple falsity is essential to that of "strict" from "material" relations, the presence of this consequence of 2.21 would be to reduce the system to a redundant form of "Material Implication."

To correct this error, postulate 1.8 must be replaced by the principle given as theorem 2.2,

$$(p \rightarrow q) \rightarrow (\sim q \rightarrow \sim p),$$

and theorems 2.7, 2.712, 2.72, 2.731, 2.75, 2.76, and 2.77—all of which are alternative forms of 2.21 or 1.8—must be deleted. The proof of the remaining theorems, with the further exceptions to be mentioned immediately, will not be affected; and the important results and general character of the system will still be as presented in the book.

The transformation set forth in Section III, which proves that Material Implication is a subsystem in Strict Implication, can not be carried out in all details in the manner proposed, since theorems 4.3—4.37 of that section involve 2.21 and are invalid. But this transformation can be otherwise effected, as is demonstrated by the fact that all the symbolic postulates for Material Implication given in *Principia Mathematica* can still be deduced. In the proof of these postulates, as given in Section III, the only use of 2.21 or its consequences is in 4.54 and 4.55, which are lemmas to 4.56, and in 4.57. But 4.56 and 4.57 can be otherwise proved as follows:

Lemma 1. $p \rightarrow (q \subset p q)$

Proof: 2.4: $p q \rightarrow p q$ (1)

$$4.52 \quad (1) = p \rightarrow (q \subset p q)$$

Lemma 2. $(p \rightarrow q) \subset (p r \subset q r)$

Proof: Lemma 1: $q \rightarrow (r \subset q r)$ (1)

$$1.6: \{(p \rightarrow q) [q \rightarrow (r \subset q r)]\} \rightarrow [p \rightarrow (r \subset q r)] \quad (2)$$

$$4.15: [p \rightarrow (r \subset q r)] \rightarrow [p \subset (r \subset q r)] \quad (3)$$

$$1.6: (2) \times (3) \rightarrow \{(p \rightarrow q) [q \rightarrow (r \subset q r)]\} \rightarrow [p \subset (r \subset q r)] \quad (4)$$

$$4.52: (4) = (1) \rightarrow (p \rightarrow q) \subset [p \subset (r \subset q r)] \quad (5)$$

$$4.51: (5) = (p \supset q) \subset (p r \subset q r)$$

Theorem 4.56. $(p \subset q) \subset (p r \subset q r)$

Proof: Lemma 2 $\{(p \subset q)p/q\}$:

$$\{(p \subset q)p \supset q\} \subset \{(p \subset q)p r \subset q r\} \quad (1)$$

$$2.91: (1) = \{[(p \subset q)p] \supset q\} \subset \{[(p \subset q) (p r)] \subset q r\} \quad (2)$$

$$4.53: (2) \times 4.53 \supset [(p \subset q) (p r)] \subset q r \quad (3)$$

$$4.51: (3) = (p \subset q) \subset (p r \subset q r) \text{Q.E.D.}$$

Theorem 4.57. $(p \subset q) = (-q \subset -p)$

$$\text{Proof: } 2.8, 2.51: -(p \supset q) = -[-q \supset (-p)] \quad (1)$$

$$1.03: (1) = [(p \subset q) = (-q \subset -p)] \text{Q.E.D.}$$

For similar reasons, postulate L of the set given for the "Calculus of Ordinary Inference" should be

$$L. (p q \supset r s) \supset (p o q \supset r o s).$$

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REVIEWS AND ABSTRACTS OF LITERATURE

Authority in the Modern State. HAROLD J. LASKI. New Haven: Yale University Press. 1919. Pp. 398.

Usually, we do not understand the institutions we take for granted, and unwittingly we obey Burke's admonition and reverence them. Such has been our attitude toward the state. Of late, when our own political philosophers discussed it, they did so nearly always to justify its existing form of organization. When our political scientists dealt with it, they seldom did more than describe and classify its organs of government.

Mr. Laski breaks with this tradition. His view of the state is heretical, although he hides his non-conformity behind an awe-inspiring mass of pointed references and excellent foot-notes. He inquires into the problem of state authority and the nature of obedience. To Mr. Laski the state is the people organized politically. He would say with William Graham Sumner "the state is all of us," but would add, "yet, not all of each of us." There are innumerable human interests which lie outside the purview of the state, which, after all, is no more than one of the innumerable group units of which society is composed. While the state and government are not identical, it is through government that the state functions, and thus, any real-

istic analysis of the modern state will actually be an analysis of government. The doctrine of sovereignty is but a legal fiction, which has, in fact, already broken down. The state is entitled to no loyalty from its members which it has not freely won from them through service. It is the co-equal rather than the superior of the other group units which go to make up society. The individual may be, and he usually is, a member of several groups. Obedience to the state, *viz.*, obedience to the persons who constitute the government, must rest ultimately upon free individual response. In a clash between the state and a non-political group the individual must be left free to choose as to which he will give his adherence. Good citizenship consists in contributing to society the best in one's personality. Yet without freedom this is impossible. The sovereign state, which lays first claim upon the loyalty of citizens, is the denial of freedom. And the claim of unquestioned obedience is most dangerous at the very times when it is most vigorously exerted—at times of crisis—for it deprives the state of free counsel at the hour of its greatest need, and takes from the individual his freedom of choice in a moment of most vital import.

But, this work tries to show, the doctrine of sovereignty has in fact broken down. The state's own civil servants have demanded the right, now freely accorded other workers, to form associations and to strike. In France, and since the author's writing in Great Britain, in Canada and in Massachusetts, civil servants, including even the police, have organized and conducted strikes against the arbitrary power of the state. Their governments have vigorously condemned them, have loudly asserted the doctrine of sovereignty and have finally yielded to their servants' demands.

The present state organization stands counter to the facts of social life. Society has become too complex, interests have grown too varied, for the "knowledge necessary to the parts and of the whole" to be concentrated "at a common center," as Tom Paine thought possible. The "new synthesis" at whose threshold Mr. Laski tells us we stand, will be a federalistic society, functionally as well as territorially. The function of production will be separated as completely as possible from the interest of consumption. Questions of law will continue as at present to be matters for the courts. Here Mr. Laski is far from enlightening. We take it, though, that what he objects to in the state as it is organized to-day is its out-grown legislative and administrative authority trying to perform functions and pretending to exercise powers which under existing conditions are far beyond its competence. To the state as final arbiter Mr. Laski seems to have no objection. He even looks with

favor upon a tribunal of "especial dignity like the Supreme Court of the United States," to settle disputes between conflicting interests and authorities. Yet, he tells us nothing of who is to make the law which the court is to administer, of what authority is to organize the court, and who is to enforce its decree.

Yet, it must be remembered that this book is not a systematic treatise upon the theory of the state. It is rather a series of studies, more or less related, upon what is perhaps the central problem of politics: the nature and limitations of state authority. The author elucidates his own position through an analysis of the theories of French philosophers of the post-revolutionary period. This part of Mr. Laski's work does the double service of helping to clarify his position and of acquainting an English speaking public with the thought of Bonald, Brunetière, Bourget, Lamennais and Royer-Collard.

To those of us who insist upon "solutions," Mr. Laski's volume will be disappointing. He doesn't build a utopia, he studies a problem. The process of government to-day is the process of the adjustment of various group interests. The representative legislature, in fact, promulgates as the law of the state the demands of those groups which are able to exert strong enough pressure upon it. The modern state is the organ of the dominant group in society. Its function, we are told, is to maintain "law and order." To the dominant group "order" is the existing order, and law is an instrument to maintain the *status quo*, rather than a method by which to effect progressive change. "To make the state omniscient is to leave it at the mercy of any group that is powerful enough to exploit it, . . . is to make it the creature of those who can possess themselves of its instruments" (p. 385).

Mr. Laski seeks the solution of his problem through the limitation of state authority on the one hand, and the allowing of a great measure of autonomy to social and functional groups on the other. The state will be recognized as one group within society, performing certain specific functions. Its importance, as compared with that of other groups, will be measured by the service it performs, rather than by the dignity which it claims.

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Army Mental Tests: C. S. YOAKUM, and R. M. YERKES. New York: Henry Holt & Co. 1920. Pp. 303.

This book puts into conveniently accessible form the methods for the examination of recruits employed by the Surgeon General's

Office, with their chief results and implications. Its importance to the mental examiner is sufficiently indicated by partial enumeration of its contents. There are reviewed the requisite features of a large-scale group test suitable for military use, also the various checks applied through other criteria of intelligence. The alpha scale is most satisfactory above 11 years, while the beta scale is less satisfactory at the high intelligence levels. The relation of intelligence ratings to occupational specifications is discussed. Among the statistics the reviewer has not seen elsewhere are those showing the proportion of low and high grade men in typical military groups; also the detail of intelligence findings for officers in different branches of the service, and the relation of intelligence to rank. This last is practically zero. The Examiner's Guide is reproduced, and keys for tests are added. The various tests of the army performance scale are closely described, and the important scoring table of Healy's newer picture completion test is included. There are some paragraphs on buildings and equipment. Account follows of tests made in the S. A. T. C. and in colleges. There are quoted statistical tables showing among other things the distribution of alpha scores in various institutions, the incidence of the higher grades in various institutions, military and otherwise; the comparison of men and women, and of different departments of the same institution. There is practically no difference between men and women or between different departments, and but little between different collegiate years. There is liberal quotation from significant articles by Yoakum, by Dodge, and by Yerkes. The Leavenworth Disciplinary Barracks tested about equally with the draft. Conscientious objectors averaged somewhat higher. It would be of interest to know how "sincere" objectors compare with "insincere" ones; the higher average as a whole is not surprising, the objection implying as it does some rationalizing tendency supported by higher "intelligence." In discussing industrial applications, as related to intelligence specifications of different occupations, note is made of a slightly negative correlation observed with one species of manual skill. In conclusion, the forms for the tests and other military records are reproduced.

Theoretical bearings of the material will be obvious, though this book is not intended to develop them. It is an impertinence to praise a volume which focuses the best powers of American psychology upon its subject. One formal suggestion might be offered. A book inviting such frequent reference would be convenient to have in pocket form, something with limp covers and round corners, after the fashion of Davenport's *Statistical Methods*. Royalties of the volume are fitly offered to the advancement of psychology

through the National Research Council. "The degree of practical success in the application of such a measure may well be considered one of the major achievements of the war."

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JOURNALS AND NEW BOOKS

THE PSYCHOLOGICAL CLINIC, December, 1919. *A Demonstration Clinic* (pp. 1-17): By the Staff of the Psychological Clinic, University of Pennsylvania.—Eight cases are described in detail. These cases were demonstrated in the Psychological Clinic of the University of Pennsylvania. The record of the patients includes name, age, whom referred by, cause, school attended, age entered, school history, diagnosis, recommendation, Terman Revision mental age, basal age, and I. Q., physical condition, educational status at time of examination—reading, letters known, arithmetic, number of hours instruction, present status, speech work. *The Meaning of a Binet Score* (pp. 18-26): H. J. HUMPHSTONE.—The meaning of the Binet score is a performance level on the intelligence scale. This is one element useful in giving a diagnosis of the child's mental ability. *The Present Status of the Subnormal Class* (pp. 27-32): FRANCIS N. MAXFIELD.—The problem of the mentally defective child until he is sixteen years old is presented. The large part of the social problem after he is sixteen is also given with suggestions for meeting it. *Shell-Shock* (pp. 33-50): T. E. SULLENGER.—The term "shell-shock" has been adopted officially as a diagnostic term to cover all neuroses arising among officers and soldiers of the army. Nine cases are described. Considerable stress is laid on the psychological aspects of the war neurosis. *An Analysis of the Proficiency and Competency of a Fourth Grade Class* (pp. 51-58): GLADYS E. POOLE.—A survey was made of 30 pupils of nine different nationalities. The tests used were: Arithmetic Series B, Monroe Standardized Silent Reading Test, Courtis Standardized Research Test in Reading, Thorndike Visual Vocabulary Scale A-2, Ayres Measuring Scale for Handwriting, Ayres Measuring Scale for Ability in Spelling. Some of these pupils absolutely lacked fourth grade competency. Proficiency tests should be given and the child's proficiency accurately determined before promotion. *Diagnostic Teaching* (pp. 59-65): G. G. IDE.—A very interesting case of a boy with deficient energy is described. *The Classification of Criminals* (pp. 66-74): CARL MURCHISON.—The classification of several hundred criminals according to the Alpha Group Examination was made. *Some Problems at Work*

Age Level (pp. 75-87): G. G. IDE.—The problems of the fourteen year old boy who is mentally deficient are discussed. Six cases are described. *The Training of Very Bright Children* (pp. 88-96): LIGHTNER WITMER.—A very bright child is one who has such a high measure of competency that he is able to learn more than the prescribed curriculum, within the prescribed time, under the prescribed conditions. A farmer does not try to cultivate weeds and grain in the same field. Let us be very optimistic and confidently await the day when education will be as scientifically and intelligently directed as agriculture.

Industrial Administration. A Series of Lectures by A. E. BERRIMAN, ST. GEORGE HEATH, LEONARD HILL, T. B. JOHNSON, A. F. STANLEY KENT, T. M. LEGGE, T. H. PEAR, B. SEEBOHM ROWNTREE. Manchester, Eng.: University Press. New York: Longmans Green & Co. 1920. Pp. 203. \$3.

NOTES AND NEWS

THE Board of Governors of the University of Manitoba, Winnipeg, Canada, announce that they will proceed shortly to appoint a professor of philosophy and invite applications for the chair. This is to be the first appointment in the Department of Philosophy and Psychology recently established. The initial salary will be \$3,800. The successful applicant will be expected to enter upon his duties on or about September 1, 1920. Five printed or typewritten copies of letter of application and testimonials should be in the hands of the Secretary of the Board of Governors on or before June 20, 1920.

WE borrow from *Science* for May 14, 1920, the following account of the proposed formation of Anglo-American libraries for Central Europe:

"It is proposed to establish in Central Europe under British-American auspices libraries of recent English books indispensable to university teachers. The work is being organized on a broad, non-political, non-sectarian basis, so as to enlist the widest possible co-operation. These libraries will supply on loan books needed by the faculties of the different universities in Central Europe. They will be under the charge of British and American representatives, and committees of the foreign universities will be asked to superintend the local administration. A committee of the six most important learned societies in Germany and Austria has been formed for the carrying out of the plan which, in addition to the loan library, will include a

system of exchange of publications and duplicates between any libraries and institutions willing to cooperate. The preliminary statement of the trustees says:

"By thus taking the initiative in extending the hand of fellowship to colleagues in former enemy countries, British and American scholars are seizing a timely opportunity of helping to heal the wounds of the war and of exemplifying in a practical and convincing way the true 'international mind.'

"Viscount Bryce, Lord Robert Cecil and other English public men have expressed their approval of the plan and have promised their cooperation in carrying it out. The supporters of the plan in Great Britain include: Gilbert Murray, Oxford; A. E. J. Rawlinson, Oxford; C. S. Sherrington, Oxford; Walter Raleigh, Oxford; A. E. Shipley, Cambridge; J. J. Thomson, Cambridge; A. S. Ramsay, Cambridge; Joseph Larmor, Cambridge; Horace Darwin, Cambridge; W. B. Hardy, M.A., Cambridge; Alfred Hopkinson, Glasgow; Col. E. H. Hills, Woolwich; Henry A. Miers, Oxford; Alex. Hill, Cambridge; George Paish, London; Rickman G. Godlee, London, and Michael Sadler, Leeds.

"University teachers in the United Kingdom and America are requested to give their approval and cooperation to the plan by sending their names to the secretary, Mr. B. M. Headicar, librarian of the London School of Economics (University of London), Clare Market, London, W.C."

DR. CHARLES W. HENDEL, of Williams College, has accepted an appointment as associate professor of philosophy at Princeton. His successor at Williams is to be Dr. T. H. Proctor, now of Harvard.

DR. JAMES R. ANGELL, professor of psychology and dean of the university faculties at the University of Chicago, has been elected president of the Carnegie Corporation of New York. For the past year Professor Angell has been chairman of the National Research Council.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

DE PROFANITATE

“**L**OGIC must correspond to a fact of psychology,” observed Charles Peirce, “or it degenerates into a mathematical recreation.” The observation was quoted by Royce at his “logical seminary,” one evening during the last year of the seminary’s existence. Royce had been seated at the head of the long oak table, with chin in his hands as usual, and on his face the look of a day-dreaming child whose thoughts were in fairyland. Those who did not know him might have judged that his thoughts were remote from the discussions which took place across the table—but had any one thought so, the sequel would have proved him wrong. Royce had been assembling his battery and preparing to hit the center of the argument.

A professor of philosophy had just been discussing the meaning of implication, he had been expounding Bosanquet and had talked of hypothetical propositions and of conditional propositions which do not assert the existence of anything. Another had replied to him with an exposition of the views of Bertrand Russell, and the discussion at length concentrated on the question whether, at the beginning of a logical undertaking, it can be assumed or ought to be admitted that a false proposition implies a true proposition. One party asserted that a false proposition implies any proposition whatsoever, another offered observations on the “independence of postulates,” the blackboard was quickly covered with symbols, and the discussion bade fair to become a discussion of what rules the assembly was willing to accept as the rules of the game of logic. We were in imminent danger of deserting the thinking process altogether for the play with symbols which is called mathematical logic. At this point Professor Royce, for a long time silent, jumped squarely upon the central issue. Whether we choose for a postulate that a false proposition implies any proposition, is, after all, not a matter of tremendous purport. The important and real question is whether a false proposition in our actual thinking does or does not imply any proposition whatever—not whether it can, but whether it does. Do we find it

functioning in this way in our habitual thinking? We do. Professor Royce illustrated the fact by quoting popular profanity, the Book of Ruth, a Gilbert and Sullivan opera, a sonnet of Shakespeare, current slang, the Church of England marriage service, a lyric of William Blake, and the use of certain adverbs in three of the languages of Europe.

When the clergyman in the story-book is confronted with a circumstance which he has not foreseen or which he has believed impossible, he says "I am blessed if it isn't!"—and intends to indicate his astonishment that the thing undeniably is as it proves to be. By the same speech with which he voices his surprise that it isn't, he voices also his confidence that it is. His satisfaction concerning it is so perfect that if, by any chance, it were not so, he would assert that he is living in that state of blessedness for which he has so long hoped that he now dares scarcely to aspire to it.

The average citizen, on the other hand, encountering an unexpected state of affairs, says of it, "Well, I'll be damned if it isn't!" Obviously it is, and no doubt about it. When he offers to be cheerfully damned if it isn't, he is keeping well within the margin of safety. But the logic works both ways. Surely it is apparent that no man wants to be damned. Indeed the speaker, when he asserts his willingness to be damned if and on the condition that it isn't, appeals to whoever hears him to perceive the obvious, to perceive that the proposition that he is willing to be damned is a false proposition—and to infer, from this false proposition, the true proposition that the thing is.

Some offer to be cursed, or tortured, or badgered in a variety of ways, some call down upon themselves the malevolence of the elements and of the deities, they offer to accept misfortunes which no one would willingly undergo—all to prove, by the assertion of a false proposition, that some other proposition is true. The word, damn, has become bad usage. When the Captain of H.M.S. Pinafore has asserted that he never, or hardly ever, swore "with a big, big D," the chorus responds:

Then give three cheers and one cheer more,
For the *well-bred* Captain of the Pinafore!

The majority of the people, the larger part of the time, try to find for their use in giving vigor and emphasis to their expression some word which has not thus become an emblem of bad taste, "May I be struck dumb if I am not speaking the truth" is a case in point, and the expression "May the Lord pour out his wrath upon me if this is not true" translates literally to the rubber-stamp profanity of the stage and the street. The well-bred person can and does swear with entire propriety if he is guarded in his choice of words.

In one of the finest lyric passages of all literature, Ruth, swearing to be forever devoted to Naomi, enumerates ways in which her devotion will find concrete expression—"thy people shall be my people; whither thou goest, I will go; where thou diest I will die, and there shall I be buried" and concludes her appeal with the oath, "May the Lord do so to me and more also, if aught but death part thee and me," The passage is high poetry, but the oath may be paraphrased perfectly by the commonest cursing of the American idiom.

The youthful enthusiast swears loyalty to his purpose "till Hell freezes over" or "until there shall be the Millennium upon Earth"—according to his taste. It comes to the same thing in either case, for neither is likely to happen. Both are practical contradictions in terms. When the false shall be true, then it will be true that he will be false to the object of his loyalty. So long as false is false and true is true, for better for worse, for richer for poorer, in sickness and in health, anyway, he will be devoted to his choice. While the false is recognized as false, the truth of what he swears is implied and demonstrated.

Logicians argue whether a false proposition implies a true proposition—and the man of everyday, who knows that it does, goes blithely ahead and certifies it whenever he swears. And we all swear—in hard words or in soft—for all swearing is not vulgar language, and there is much swearing that is not cursing. The man of everyday, when he swears, fulfils the pragmatist specification by acting as if a false proposition implies a true one. But he also does better than that. He finds in his thinking process, "in the field" as the geologist would say, in the thinking process which is the laboratory of logic, false propositions constantly implying and demonstrating true ones. It is not a thing to be argued. It is a fact of psychology.

In the sonnet where he describes the constancy of true love, Shakespeare, having concluded his exposition, wishes to say that he is confident of its correctness, and adds:

If this be error and upon me proved,
I never writ, nor no man ever loved.

Obviously he has written, and obviously men have loved. By this token therefore his remarks about true love are not error, but are true. Indeed if things as obviously true as they were false, then anything would be true—and the laws of right thinking would no longer have any relevancy and pertinence.

Hamlet knew very well that a false proposition implies any

proposition, as is testified by his conversation with Rosencrantz and Guildenstern wherein he plays a logical trick upon them and parries, when in their turn they try the same trick on him, leading them away into a discussion of the subjectivity of judgments of value and flippantly to one of the central problems of metaphysics. To his inquiry, "What news?" Rosencrantz replies, "None, my lord, but that the world's grown honest." Hamlet answers, "Then is doomsday near; but your news is not true." If a proposition as palpably false as this, that the world has grown honest, were by any chance true, then anything would be true, then doomsday would be near. But the proposition happily is not true. Hamlet then inquires what his good friends have deserved at the hands of fortune that she sends them to prison thither.

Guil. Prison, my lord!

Ham. Denmark's a prison.

Ros. Then is the world one.

Ham. A goodly one; in which there are many confines, wards, and dungeons; Denmark being one o' the worst.

Ros. We think not so, my lord.

Rosencrantz, who is more logical-minded than his companion, treats Hamlet's observation that Denmark is a prison as a false proposition by inferring from it the any-proposition, "Then is the world one." Hamlet, pleased with the inference, which seems to him to be the legitimate deduction from a true proposition, proceeds to dilate upon it and forces him to the flat statement that he thinks that the proposition is false. Thereupon Hamlet shows the incompetence of this reply by pointing out that such a judgment has only a subjective validity. It is true or false independently of objective standards, and is not to be taken, if false, as a basis for the deduction of any proposition.

Ham. Why, then 'tis none to you: for there is nothing either good or bad, but thinking makes it so. To me it is a prison.

When a man swears, he asserts a false proposition, usually in simple and direct terms. He infers from it an any-proposition which he dresses in language as grotesque as his taste may dictate. The more grotesque the any-proposition, the more poetic the swearing and the stronger hold it takes upon the imagination—witness Rabelais, "May I never be hang'd, if 'twas not a Comical Sight." The particular choice of verbs for the asserted false proposition determines the flavor of the swearing, whether it be good or bad, for the oaths of the roughneck and the oaths of the devotee are fre-

quently identical in their sense. The palpable absurdity of the inferred any-proposition acts upon the mind of the hearer as evidence that the first-asserted false proposition is false indeed. The wide prevalence of this sort of thinking, both in the higher atmosphere of poetry and in the common swearing of the streets, seems to indicate that such an order in the presentation of ideas gives vigor to conviction and provides a medium for the exercise of strong language.

It is therefore no paradox, that strong language is unnecessary for the use of him who would argue that a false proposition in our actual thinking process does imply any proposition. The language of the streets proves his contention. And the author of the present paper, as far as the foregoing is concerned, appears to be in what Emerson has somewhere described as the false position of defending the obvious. But valid conclusions rest ultimately on such an appeal; and it may now be noted that logic, if it is the science which deals with the actual objective properties of actual thoughts, the relations between them, and with the mechanism and procedure of their action, is a different thing from the deductive science of mathematical logic or logistic which deals with defined and frequently imaginary things without questioning behind the definition. Logisticians have been known to boast that their conclusions would still be true if there were no world at all or only a world with no thinking intelligence in it.

All science and indeed all human activity needs logic. It is impossible even to go from the soup through the rest of the dinner without frequently taking advantage of the laws, or principles, or whatever else it is that constitutes the science, of logic. And logic in some sense is an objective or natural science after all. A given proposition implies a certain other proposition or it does not. Given the first proposition, a perceiving person can infer the second or he can not. The facts of the science are no more debatable than the facts of physical science, yet logic, among all the sciences, is unique. For all of them it is the *science of procedure*. And methodology is the science of scientific procedure.

No science can get along without logic; and, as each science has its special subject-matter, so, in many cases, it has also its "special logic." This "special logic" is another or secondary science and has for its subject-matter highly-specialized, exactly-defined, imaginary things, such as entropy, molecular weight, chemical affinity, specific heat, rigid implication, vector quantities, the square root of minus one, *etc.*, *etc.* But these secondary and deductive sciences are not branches of logic properly so-called; they are not sciences of procedure, but, as far as their intent and application are concerned, are part of the actual procedure itself.

In their intent these secondary deductive sciences provide tools and means for the operation of the more concrete and perfectly objective natural sciences. And it is without doubt this demand on the part of the concrete sciences for tools which has given rise to the existence of the secondary sciences—as is manifest in the fact that geometry was born in ancient Egypt, called into existence by the necessity of re-surveying the land after the subsidence of the annual Nile floods. These secondary sciences, however, are after all sciences which deal with the properties of things, though *defined* things, and they have a fascination and lure for their devotees which lead them on to define other things more or less similar to the original objects of their study and to delve into the properties of these new things—even though this study has now no longer any value as part of the procedure of the primary science. In this way the secondary sciences often advance farther or in other directions than the primary sciences which have called them into existence, and often they run into blind alleys, and occasionally they lag behind. There are frequently gaps in the one and waste places in the others. Present mathematics has developments which will surely prove to be tools for the elucidation of some of the recent discoveries of physics. Clerk Maxwell, when he undertook the study of vortices, found ready for his hand the mathematical equipment of his procedure.

No branch of human endeavor needs logic more than philosophy. While the physical sciences can, if need be, naïvely proceed about their business, making only unconscious use of logic—as unconscious as the man who wields a pick—the conscious and critical use of logic is as necessary for a philosopher as the habit of accurate observation is for the man who works in a laboratory. In a very general sense the aim of philosophy seems to be the examination of the purport and significance, the connection and purpose of things. The physical and the more recent psychological sciences have never really usurped any part of the territory of philosophy, and they never can. The student of physics who picked up *Paradise Lost*, read for a few minutes, and threw down the book with the question, “What does it prove?” was more of a philosopher than he would willingly admit. Philosophy will always be concerned with the significance of the concrete sciences and with the relation of the knowledge which they produce to knowledge of other kinds which is derived from other sources. Thus, one of the problems of metaphysics is the relation between the knowledge derived from the concrete science of physics and that derived from the deductive science of mathematics. And meta-logic will have to discuss the purport of logic, its significance, and relevance, and the relation, if any, of

this concrete primary science to the secondary deductive science of mathematical logic or logistic. The subject of the present paper, then, is a meta-logical one. If it succeeds merely in putting the question its purpose will have been accomplished.

When the mathematical logician boasts that his science is one which studies the properties of defined things similar to those which occur in the thinking process but not having any necessary connection with them, he seems to me to talk like a man whose life is dedicated to the study of the Phoenix or the Basilisk. Perhaps I misunderstand; and this paper, after all, is only a plea for enlightenment. James Stuart Mill said that genius is the ability to perceive remote connections and gave basis for an excellent definition of philosophy—as *the study of relevance and of purport*. If logistic is really a part of philosophy, it would seem that the logicians might give us a discussion of the relevance of mathematical logic. The significance of a symbolistic shorthand representation of a train of thinking is plain enough. What of the volumes of theorems derived by developing the defined properties of symbols? What of this science that C. I. Lewis has shown to be only a game, played according to rules, with quids and with quods? Strong language puts the question forcefully. And a discussion of it by the logicians would be a contribution to meta-logic.

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SOCIETIES

THE TWENTIETH ANNUAL MEETING OF THE WESTERN PHILOSOPHICAL ASSOCIATION

WITH its annual meeting, on April 16 and 17, at the University of Wisconsin, the Western Philosophical Association brought to a strikingly successful close the twentieth year of its history. The attendance, including instructors, assistants, and graduate students from neighboring institutions, was the largest in years; the discussion was thoroughly fresh and lively and the fellowship both genuine and spirited. The pleasure and the profit of the meetings were both enhanced in no small measure through the thoughtful arrangements made by the local department of philosophy and through the kindness of the Beta Theta Pi fraternity in placing its Lodge at the disposal of the visiting members, thus enabling them to live in common during their stay in Madison.

Under the new name of the Western Division of the American Philosophical Association, and in eager cooperation with the Eastern Division, the organization now seeks a further expansion of its usefulness. The possibilities inherent in joint undertakings were promisingly augured in the business meeting. Following a resolution by which a committee was instructed to cooperate with a committee of the Eastern Division in arranging for a joint meeting which, with invitations to other American and to foreign philosophical societies, might possibly be given the character of a philosophical congress, the announcement was made that Mrs. Carus had generously made the offer of an honorarium, in memory of Dr. Paul Carus, for a course of lectures to be given on the occasion of the first joint meeting of the Divisions.

The presidential address by Professor Norman Wilde was delivered immediately after the annual dinner on Friday evening. Selecting as his topic, "The Attack on the State," President Wilde presented a critique, both acute and constructive, of recent pluralistic theories, and a defense of the view that political sovereignty must be interpreted as very genuinely supreme and unitary.

A noteworthy feature of the meeting was the informal session or gathering held on Saturday afternoon in the living room of the Beta Theta Pi Lodge. Various matters of common interest were considered. The greater part of the afternoon, however, was taken up by discussions of various attempts now being made or projected by American colleges and universities to provide students with a twentieth century *Weltanschauung*, with an intelligent view of the physical and the social environment in which modern life is carried on, or with such knowledge as forms an indispensable prerequisite for any serious study of metaphysics. The discussion was initiated by a paper which Professor Gregory D. Walcott presented on "A New Content Course in Philosophy."¹ The aim of the course which Professor Walcott described and which he is this year giving in Hamline University is to furnish a cross-sectional view of the world as this is represented by the various sciences of to-day. Through the series of books published by Henry Holt & Company as "The Home University Library of Modern Knowledge," the students are introduced to some fifteen or twenty sciences in the course of the year. Only the more general and important points are stressed, and these are brought into as complete and vital relations as possible, the whole constituting a sort of neo-Positivistic or neo-Synthetic evolutionary philosophy. For next year Professor Walcott is planning a companion course on "A Philosophical Survey of Human Culture."

¹ To be published in full in a later issue of this JOURNAL.

The most significant item of business transacted was the adoption, with certain minor changes, of a report presented by Professor Alexander, Chairman of the Committee on the Federation of Philosophical Associations. As amended and adopted, the report reads as follows:

"The Committee of the Western Philosophical Association, continued for the purpose of carrying forward negotiations looking to the federation of this Association with the American and the Southern Philosophical Associations, report as follows:

"1. While some members of the Southern Philosophical Association have indicated interest in the proposals made, no definite response has as yet been received.

"2. At the meeting of the American Philosophical Association held in Ithaca, December 30 and 31, 1919, the following amendment to Article I., Section 1, of its constitution, was unanimously passed:

"'The name of this organization shall be the Eastern Division of the American Philosophical Association.'

"Further, it was moved and carried that the matter of closer association between the Eastern, Western and Southern Associations be referred to the Committee on Organization and Attendance (Professor Tufts, chairman); and it was suggested that in choosing a place of meeting for next year (1920) a joint meeting with the Western branch be considered.

"3. In view of the action of the American Philosophical Association, this committee recommends the following amendment and resolution:

"I. The name of this association shall be the Western Division of the American Philosophical Association.

"II. The members of this Association, in changing its name, express their cordial appreciation of the courtesy of the members of the Eastern Division of the American Philosophical Association, and the hope that the change of name may be the foretoken of a more intimate association of the memberships of the two Divisions.

"4. The committee further recommend:

"(a) That the matter of securing a joint meeting be continued with a committee appointed for this purpose, to act in consultation with the committee similarly empowered by the Eastern Division.

"(b) That the members of the Western Division express their hope that the first joint meeting, or congress, may be arranged to be held in the first or second week of September, 1921, on the campus of some university of the eastern states.

"(c) That the Western Division believe that the joint meeting should be made the occasion for the extending of an invitation to

some American philosopher to deliver there a series of not less than five lectures upon some philosophical topic, the lecturer to be chosen by the committee organizing the programme.

“(d) That they also suggest the desirability of inviting the presence of delegates from other philosophical societies, American or foreign, thus giving the meeting the character of a philosophical congress.”

The existing committee on Federation was appointed as the committee mentioned in paragraph four of the above report. In response to a letter from President Perry, of the Eastern Division, the secretary was authorized to communicate to Professor Armstrong, chairman of a committee of the Eastern Division having in charge matters relating to the sending of representatives to the approaching international philosophical gathering at Oxford, our desire that the representatives selected bear the credentials of the Western Division as well. In acceptance of an invitation from the University of Chicago, it was resolved to hold the next annual meeting of the Division at that institution. The generous offer by Mrs. Paul Carus of a honorarium, in memory of Dr. Paul Carus, for a course of lectures to be given at the first joint meeting with the Eastern Division, was enthusiastically accepted and the secretary was instructed to convey to Mrs. Carus the deep appreciation of the Division. Resolutions of thanks were offered also to the University of Wisconsin, its Department of Philosophy, and the local Beta Theta Pi fraternity for their splendid hospitality to the members and visiting friends of the Association.

The following persons were elected to membership in the Division: Albert R. Chandler, H. E. Cunningham, D. S. Robinson, A. J. Schneeweiss, Ella Stokes, and W. C. Swabey.

The officers elected for the coming year were: *President*, E. L. Hinman; *Vice-president*, W. L. Raub; *Secretary-Treasurer*, E. L. Schaub; *Members of the Executive Committee*, R. C. Lodge, A. W. Moore, M. C. Otto, J. D. Stoops.

The treasurer's report indicated the possession of forty war savings stamps, in addition to balances in the checking and in the savings accounts, respectively, of \$82.94 and \$69.44.

The papers read at the meeting were as follows:

The Logical Status of Elementary and Reflective Judgments: R. C. LODGE.

(Published in full in this JOURNAL, Vol. XVII., pp. 214-220.)

Some Lingering Misconceptions of Instrumentalism: A. W. MOORE.

The justification of a discussion under this heading is found in

the fact that recent important literature revives certain misconceptions of instrumentalism, which a year ago one would have said had been finally disposed of. These misconceptions arise from unauthorized extensions of the meaning of the term "instrumental." In all authorized versions of instrumentalism the term refers to the instrumental character of *reflective*, inferential consciousness. In the misconceptions it is made to apply to *all* consciousness with the result that *immediate* experience to which reflection is instrumental is reduced to mere physical motion, and when applied to values the misconceptions result in the absurdity, which the perpetrator of the misconstruction delights to point out, of making all values instrumental to a process which is devoid of value.

References to repeated explicit statements by instrumentalists of what they mean by "immediate experience" show how unwarranted this misuse of the term instrumental is and how grotesque the notion that instrumentalism has no place for the values of appreciation, contemplation and adoration which are precisely the things to which, in instrumental doctrine, *reflective* consciousness is instrumental.

Some of the sources of the misconceptions are : (1) The term "instrumentalism" which as an "ism" is, with some justification, taken to mean a universal character; (2) the habit common to all of us of thinking and talking of consciousness in *cognitive* terms; (3) failure to note that the biology to which instrumentalists appeal is a glorified biology loaded with all the conscious values—social, æsthetic and religious—of which it is stripped by those who find it a stumbling-block; (4) the confusion of the question of the *nature* and function of reflective consciousness with the irrelevant psychological matter of the division and specialization of interest.

A Sociological Theory of Knowledge: E. L. SCHAUB.

Though presenting itself as integral, experience likewise manifests perplexing antitheses, both in fact and in worth, in the realm of cognition no less than in those of feeling and volition. Hence distinctions such as those of opinion and knowledge, perception and conception, sense data and categories.

I. *Historical Setting.*—Early empiricism and rationalism were succeeded by Kant's endeavor to show that the various factors of experience must be interpreted as abstractions from a concrete whole, not as separate entities. This led to idealistic theories of knowledge, for which experience is an indissoluble synthesis of existence and meaning. But Kant inextricably combines with the above an attempt to show how experience comes into being. This paved the way for genetic doctrines: empiricism; apriorism; Spencer's media-

tory view; James's explanation of classificatory, logical and mathematical relations as due to spontaneous variations; Bergson's evolutionary apriorism. To safeguard the unique and authoritative character of concepts and categories (as emphasized by apriorism) while yet tracing them to specific origins verifiable by scientific investigation (as attempted by empiricism) is the aim of Durkheim.

II. *Durkheim's Theory of Knowledge.*—Cognitive experience exhibits two mutually irreducible sorts of elements: (1) Sensations, images and general ideas, dependent upon the organism and characterized by flux, subjectivity, and a status merely of *fact*, not of *right*. (2) Concepts, and the most general of the concepts, categories, the permanent to which the variable is related in the act of thinking; characterized by immutability, impersonality, universality, communicability, and authoritativeness. Their origin is the collective mind, which is distinct from individual minds and is *sui generis*. The genesis of the concepts or categories of class, of the hierarchical mode of classification, of totality, space, time, force, cause, and contradiction.

Concepts and categories afford the first intuition of a realm of truth—an order characterized by impersonality, stability, and social acceptance. No category or system of concepts more than approximates to objective validity; yet all are more than merely individual and many are more than merely instrumental or even social in the narrow sense of the term.

III. *Critique.*—The difficulties center about the cleavage between the individual and the collective minds and about the intellectualism which regards minds as consisting of representations. Inadequate recognition of the social and logical aspects of sense perception and of other processes classed as individual; of the extent to which concepts and categories are rooted in instincts; of difficulties involved in the fact that, as compared with social organization, categories are practically, if not absolutely, stable, and connected with the further fact that classification seldom occurs in connection with the realm of spirits and of the beyond in spite of the fact that these are matters of focal significance to the primitive mind. Contradiction between Durkheim's method and his principles. The categories of his description presuppose the categories. Given (1) the characteristics now conceded by numerous psychologists as original, (2) a high degree of plasticity on the part of human nature, and (3) interrelationships with minds as well as with inert objects, and one may account satisfactorily for the rational experience which individuals come to enjoy. Epistemology should take into consideration the relation of mind to mind along with that of mind to its objects.

The Chief Assumptions of Democracy: R. W. SELLARS.

It is not difficult nowadays to pick up books and essays very critical of democracy. In these criticisms we clearly find the swing of the pendulum from a naïve romanticism which filled the democratic movement in its early days. But what we need to-day is an effective idealism which is full of knowledge of actual conditions and social forces.

In its deepest sense, democracy signifies the conviction that every human being deserves respect and consideration. This respect is the ferment which democracy introduces into society. In religious language, the postulate of democracy is, that all men are brethren and that God is the common father. The eighteenth century proclaimed its democratic perceptions in the doctrine of inalienable rights.

But these guiding ideas have been largely individualistic. What have been the actual principles at work in our institutional life? First of all, we must remember that the democratic movement is the social reality. And the democratic movement has faced in two directions. It has denied the type of social organization previously dominant and it has suggested principles of its own. Besides there has always been a right and a left wing to the movement. We, in America, have been far more familiar with the right, liberal wing than with the left, radical wing.

The three important aspects of society are the political, the economic and the social. In each of these dimensions the assumptions of society have varied far more than we ordinarily realize. The first attitude of democracy was individualistic and defensive. It stressed rights rather than creation. It was not very constructive or forward-looking. This comes out in such phrases as the "consent of the governed" and "individual rights." In the economic sphere, we have *laissez-faire* rather than group-planning. In social affairs, imitation and convention rather than activity and independence of spirit.

A new spirit seems now abroad, and democracy is more aware of actual conditions and more purposive. The good life is the goal being set, and the social conditions favoring its approximation are being carefully scrutinized. It is clear, then, that the assumptions of democracy change radically from age to age.

The Ethical Import of Nationalism: E. L. HINMAN.

Recognizing the force of nationalism in modern days, the question presses concerning its philosophical interpretation. Urged that one's definition of the essence of nationalism will depend upon his philosophy; that nationalism as conceived in the context of a realistic philosophy is a terrific force for evil, but that as leavened by the

spirit of a broad idealism it is one of the most valuable of constructive influences. This influence should be seized upon and guided by the representatives of philosophy. But it has been exploited hitherto chiefly by the historians, whose discernment of the vital ideals of civilization has been inadequate. And the result has been tragic.

Analysis of Professor Ramsay Muir's conception. Inadequate—tends to level downwards. Prevalence of cruder and more realistic elements in popular nationalism and jingoism. Relevancy of strictures by Veblen and Krehbiel. But these outrage nationalism rather than interpret it. Must engage with and express higher idealism of nationalistic consciousness. Study of Mazzini, as pointing the way to this service.

The Concept of State Power: G. H. SABINE.

The state has traditionally been conceived for juristic purposes as a unified power, or legal personality, having underived, and possibly unlimited, right to issue commands to its subjects or political inferiors. Such commands of a political superior are law, and law derives its binding force from the political superiority of the will which issues it.

This conception is derived historically from the political conditions which prevailed in the period which brought the state into existence. The state was created by the rise of royal power to a position of dominance over the feudal nobility or certain corporations within the kingdom and of independence as against the Church and the Holy Roman Empire. Sovereign power meant in the first instance the personal power of the king to make and enforce law against all persons or associations within his domain. Such power was not incorrectly described as underived, unified, and absolute.

The rise of constitutional monarchy brought into being the doctrine that this absolute power inheres not in the king, but in the people, but the principle that absolute power is the source of law remained unchanged. But the concept now lacked juristic clarity because the people are not an organized law-making institution. With the growth of constitutional limitations, the law-making power of the state ceased to be concentrated in any specific agency of the government and the attempts of political science to indicate the body in which sovereign power resides were futile. The federal states presented especially complex examples of political organization. The rationalistic method of political science, however, clung to the belief that certain essential powers of the state might be derived by a logical elaboration of the concept of the state's power, and the political tendency toward centralization of authority strengthened this belief.

In fact, however, political practise does not justify the theory that any specific powers are essential to the state nor is there much unity in the powers which a given state exercises. Modern states have taken over a varied assortment of activities having no obvious unity beyond the fact that they are carried on by agencies of government. Moreover, the powers exercised by the state do not represent any specific public interest, since public interest may be just as strong in many activities conducted by private agencies. It is a question of policy whether a socially important activity can best be conducted by the one means or the other. In either case, however, the activity is protected and regulated by law.

The prevailing tendency of constitutional government has been to make every agency of government subject to law and with some exceptions such agencies are legally responsible for their actions as fully as private persons or corporations. This indicates the complete inappropriateness of defining law as the will of the state embodied in commands to political inferiors.

International Punishment: A. P. BROGAN.

There is an almost unworked field in the study of international punishment. The task of philosophy here is to formulate the methods, principles, and rules for the determination of justice in the punishment of nations.

This study should not be condemned as self-contradictory on the argument that punishment originally occurs only within one group. Men are now seeking for just ways of dealing with wrong-doing between nations. This is our problem, call it what you will.

If philosophy is to be helpful for this problem, it must be philosophy as the study of values rather than as metaphysics or epistemology or theology. Discussions about determinism, about the general will, about the absolute, would not benefit our problem even if agreement could be reached; and agreement can not be reached.

What we need is a common platform for ethical investigation. The essentials of this platform (teleology, universalism, meliorism, and experimentalism) could quickly be secured by serious cooperation. The questions about which thinkers are likely to remain in essential disagreement are those parts of ethical theory not necessary as foundations for our study.

On this common platform a theory of international ethics must be elaborated, as the guide and standard for international law and for international associations. A principal part of this ethics will be the justice of international punishment.

The determination of right and justice in this connection is a

problem for the student of ethical philosophy. But it would be folly for the philosopher to pretend to deal with the entire problem of international punishment. There is need of specialization on the part of the philosopher, and there is equal need of cooperation with the students of law, government, history, social psychology, and similar fields. The task of the philosopher is to study the values involved.

A Neglected Aspect of Hume's Ethical Theory: F. C. SHARP.

Hume finds the source of the moral judgment in the affective side of man's nature. The ethicists of the rationalistic school have always asserted that the logical consequence of such a view is ethical subjectivism. Many of the members of the affectivistic school, such as A. E. Taylor and Westermarck, freely admit the truth of this contention.

The paper attempts to show how Hume, in defending his theory against certain objections (which, however, had nothing to do with subjectivism) was led to recognize that the moral judgment is something more than an expression of the passing feelings of the moment. The moral judgment, he saw, does not represent the feelings aroused in me by the fact that one of the parties of the situation happens to be an acquaintance, a friend, or myself; that I happen to have witnessed the incident, or that the incident took place yesterday instead of two thousand years ago. The moral judgment represents my feelings with regard to conduct when I have abstracted from my accidental relations to the parties concerned; it is the voice of the impersonal or (somewhat less accurately) the impartial spectator.

When this fact is recognized, the distinction made in every-day life between "correct" and "incorrect" moral judgments is at once justified. For judgments in which I do not succeed in taking the impersonal attitude are not moral judgments in the proper sense of the term, and can therefore only be called "incorrect," or, better, invalid. Hume never really saw the bearing of these facts upon the general problem of the existence of a universally valid moral code. The great majority of later ethicists have ignored the facts themselves completely. They are, however, of the first importance in discussing the question: What are the causes of the variations in moral judgments? Such a discussion may perhaps lead to the conclusion that when these invalid members are removed from the system of our moral judgments the remainder will form a single harmonious code which will thus represent the code of the entire race. If so we shall have an ethical theory based upon desires and their attendant feelings which is justified in asserting the existence of a moral code valid for mankind as a whole.

A Reversal of Perspective in Ethical Theory: H. W. STUART.

(To be published in full in an early number of the *Philosophical Review*.)

The Basis of Human Association: H. W. WRIGHT.²

The basis of human association is personal communication carried on through discussion, cooperation and emotional concord. Discussion is made possible by the fact that the ends which men choose among are commonly intelligible. An end is a permanent possibility of realization for a subject or self; such a self is essentially social, for it maintains its personal identity by opposing to the shifting play of animal sentience an order of definable objects that is assumed to be real for all other selves as well. Cooperation depends upon the fact that the satisfaction which human individuals seek from the realization of objects as ends is a function of their comprehensiveness, and this, since it is based upon their intelligible character, is assumed to hold for all men equally. The possibility of an agreement in purpose among men is therefore created, an agreement which is favored by the fact that the more comprehensive ends are those which include in their scope the interests of others as well as the self. Emotional concord is made possible by the fact that the feelings which accompany and result from human action spring from the pursuit of commonly intelligible ends concerning whose value there is general agreement. The "Kingdom of Ends" is by nature a social kingdom; the single self in pursuit of an intelligently considered and deliberately chosen end involves the society of selves participating in the realization of common ends. Personal communication as a process has three essential characteristics: first, it is governed by ends that are social and imply the community of selves; second, it gives fullest opportunity for the exercise of individual initiative and inventiveness in the attainment of ends whose value is generally appreciated; and third, it insures from the intercourse of free persons the discovery of new values in the discharge of our common social task.

Group Participation as the Sociological Principle par Excellence: J. E. BOODIN.

It has been customary to explain social evolution and social conduct in terms of certain factors or causes, such as the physical factors, race, instinct, population, custom, *etc.* The thesis of this paper is a reversal of the ordinary method. It is, that instead of trying to account for the group by certain factors, we must understand the

² To be published in full in a later issue of this JOURNAL.

factors in terms of the group—its cumulative tradition and creative life. The real causes or motives must be found in the life history of the individual, as woven into the social network of relations at a specific cross-section of the history of the group. We can not say that this particular condition of the environment or this particular tendency effected such and such results, but we must take account of this condition or tendency as part of an organization of life interests with its social pressure, system of beliefs and scale of values. The particular factors must be regarded as instruments, conditions, raw material for social construction. The process, in other words, must be regarded, not as a mechanical but as a teleological process—the factors having meaning and efficiency only as they enter into the creative synthesis of group realization. We must take account of group participation, not as a mere effect, but as an independent variable, and for sociology the most significant variable. We find that other factors may vary and yet group relations remain the same. And on the other hand we find that group relations may vary while other factors remain the same.

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REVIEWS AND ABSTRACTS OF LITERATURE

An Enquiry Concerning the Principles of Natural Knowledge. A. N. WHITEHEAD. Cambridge University Press. 1919. Pp. xii + 200.

This is a book of real importance, but it is not a book for everybody. There are pages filled with definitions of queer technical terms, and there is no index, but that is not what makes it hard reading. The difficulty lies in the thought. You need some mathematical training to read the book, and you need some acquaintance with the previous writings of the author, or the related writings of Mr. Bertrand Russell. But far more than these, you need a sense of the whole movement of modern physical science, and an imagination undaunted by four-dimensional manifolds interweaving with other four-dimensional manifolds. In short, we have a book here which ought to be read by every philosophy student interested in metaphysics or in the philosophy of nature, but a book which most students of philosophy are not competent to read.

The subject of the enquiry is stated to be "geometry as a physical science," or "how is space rooted in experience?" And its fundamental thesis is that the verifiable data of physical science

extend temporally as well as spatially. All nature can, and indeed must, be analyzed into a complex of time-filling and space-filling events. It is therefore assumed that certain so-called "mathematical" objects, such as points of space and instants of time, do not exist. Or rather, proof is advanced that we can get along without assuming that they exist, and can still have a mathematics applicable to nature. Professor Whitehead does not argue that points and instants are unperceivable and therefore unreal. His argument takes the more effective form of establishing that points and instants are introduced only in a certain type of analysis of nature, which analysis is then shown to be inadequate. "We can not express the facts of nature as an aggregate of individual facts at points and at instants" (p. 24). Thus it happens that no addition of points together will produce a length; if you start with points, lengths must be introduced as something additional. But you could get the equivalent of points out of lengths by a suitable construction in the reverse direction.

The method of avoiding the assumption of points and instants is not so much debated in the present book, as it is assumed to be valid and then developed; the discussions which occur here of this "method of extensive abstraction" are concerned with the details of technique. The method consists essentially in taking the class of all the space-time volumes that would include a certain supposed point at an instant, and do not all include any other point or instant, arranging these in approximation series that are mutually equivalent in that they all, as they grow smaller and smaller, approximate towards the supposed point, and then taking the set of such equivalent series as a substitute for the supposed instantaneous point. It is somewhat as if, to use an over-simplified example, one took the series of all circles having their center-point in common as being an equivalent for the center itself. One would then translate geometry into a form that omitted the mention of points: instead of saying "the line passes through this point," one would say "the line cuts all these circular areas." Each circle has a finite area; the center-point has no finite area. But there is a unique one-one relation between the set of circles and their common center. So we can employ a class of areas as a sort of substitute for the non-area which is their limit; and thus simplify metaphysically, by being able to say that all space-things have areas. But of course, in the ways in which these space-things are put together there is a great increase of complexity, especially since lines and areas must next be translated into sets of volumes, and so on. Our motive here is obviously not a pragmatic search for economy of thought, but a meta-

physical ideal of economy of assumption, as regards the introduction of new sorts of irreducible metaphysical entities.

Professor Whitehead calls attention to an analogy with the differential calculus. There is no physical meaning to a velocity at an instant. Yet we can study the average velocity over three seconds, over two seconds, over one second, over half a second, *etc.*, and we can then infer that, at the instant, a certain number would represent with great precision the velocity of the body at that instant. The number is more precise than the values of the separate members of the series from which it came, since the velocity for a second is often only an average of various velocities during parts of the second. Yet the velocity at an instant is, nevertheless, no velocity at all; a perfectly instantaneous photograph would not show the body in motion. The formerly employed explanation was that the velocity in question was over an infinitesimal time; and then we had metaphysical problems about what were these "ghosts of vanished quantities." But there are no infinitesimals. The "velocity at an instant" is not a velocity, though it is the limit of a series of velocities over diminishing finite times. We could use the set of all such series, equivalent in that they are all diminishing towards the same instant, as the "velocity at the instant," but since they all have the same number which is their limit as series, this number, though lying outside of each and all these equivalent series, may be used as answering the same purpose, when we are calculating the course of behavior of a body. That is to say, the numbers have among them one number which is the limit of the series of numbers representing the velocities, though the velocities themselves do not have a limit which is a velocity. If we were dealing with velocities in the concrete, the only equivalent we could give for a velocity at an instant would be the entire set of series of actual velocities approximating to it. This is what we have to do when analogously we seek existent substitutes for non-existent "mathematical" points.

Certain difficulties seem still to lurk in the method. For instance, the approximation series must be infinite. In our series of concentric circles there is no circle that does not have within it a still smaller circle. But an actual infinite is no less inexperienceable, unverifiable, than is a mathematical point. There is something here, in any case, that can be reached only by thought. Moreover, in the present discussion at least, the areas and volumes seem to be assumed to be sharply bounded, without that penumbra of vagueness which blurs the outlines of every experienced figure. When we recall that such a penumbra of vagueness must itself have indefinite boundaries, and so on, then we see that, no matter how we handle these figures,

we use a thought that far outruns the verifiable. How complicated does the equality of two lengths become, when neither length begins or ends in a point! Wonderfully ingenious this theory will have to be—till we begin to wonder whether the game is not being made endlessly intricate for no deeper reason than to show the skill of the player?

But there are other topics in Professor Whitehead's book, and we can not exhaust any one of them here. Perhaps the most central discussion is one concerning the contrast of events and objects. What relation does the analysis of the world into a stream of events have to the ordinary analysis into objects, whether perceived physical things, such as houses and trees, or scientific objects, such as electrons? The answer is naturally complex. The two sorts of analysis overlap, yet neither is exhaustive. Let us first quote some relevant passages. "Events are essentially elements of actuality" (p. 61); they "can never happen again;" "events never change," though they give place to other events; "the irrevocableness of the past is the unchangeability of events." The most fundamental relation among events is that of inclusion-exclusion, or part-whole. Objects, on the contrary, do happen again; they reappear; they are correlated with the physical act of recognition. Indeed, Professor Whitehead concludes that they are not so much permanent in time as out of time altogether. What is in time is the set of events correlated with a given object. Yet also, though objects are out of time and space, they are, nevertheless that which has possibilities, that is to say, has potentialities. "Whenever the concept of possibility can apply to a natural element, that element is an object" (p. 64). As regards part-whole relations, "it is an error to ascribe parts to objects," either temporal, as if the table today were part of the total table, the table to-morrow another part; or spatial, as if the leg of the table were part of the table. The having spatial and temporal parts is peculiar to events. "Time and space, which are entirely actual and devoid of any tincture of possibility, are to be sought for among the relations of events." "The chief confusion between objects and events is conveyed in the prejudice that an object can only be in one place at a time. That is a fundamental property of events" (p. 65). "The continuity of nature is to be found in events, the atomic properties of nature reside in objects" (p. 66).

The term "event" lays emphasis on the time-covering character of the actually existent. Nevertheless, this tapestry of events, stretching away into past and future, absolutely actual, related only by relations of inclusion-exclusion, is almost the antithesis of tem-

porality. Physicists and philosophers are alike in their deep-seated desire to view the world "under the aspect of eternity." Professor Whitehead has tried to avoid such a tendency by making references to action and creative advance. But somehow the creative flow of the present becomes superficial in the course of the analysis, becomes a chance shadow that flits across the fixed tapestry of events. As physicist you abstract; true enough, but Professor Whitehead's own inquiry is precisely this, How may we bring physics into closer contact with natural fact? Now any easy device of letting time slip out of the picture is not masterly; and time includes not merely temporal extensity, but also the actuality of change. Perchance we philosophers pride ourselves on eternity because we can not bring our feeble minds to think squarely and heartily in terms of time, in terms of this treacherous, ever-slipping ever-advancing movement, that seems the very stuff out of which our lives are made; can not bring ourselves to think in terms of potentialities, of possible occurrences and things unborn, of hopes and uncertainties and the open road. "To realize the unimportance of time," says Mr. Bertrand Russell, "is the gate of wisdom." Yes, of a certain moral wisdom, perhaps; but why *these* moral judgments introduced into the consideration of the world as it seems to be? Even M. Bergson, with all his lip-service to change, turns for the essence of mind to memory, to memory which gives us the now silent panorama of the past; and for his ideal of God, to an ideal Vision, which like Professor Royce's Absolute, might command all time at once, in one world-inclusive moment. Let us not attribute this tendency to the nature of intellect, or to the spatializing of time. No, these are at most only symptoms. The fault, if it be a fault, lies in our fear and bewilderment before this dizzy, whirling, vanishing world as it is.

There is a clarifying virtue in the very sharpness of Professor Whitehead's distinctions between the world as a set of events, and the same world as various different sets of things, making no one analysis exhaustive of all aspects, and apportioning certain concepts to one analysis, certain to another. This is true, even though the distinctions first made may not prove finally tenable. The apportioning of time to events and timelessness to things is a case in point. So also is it with the ascription of possibility to things. It would be better perhaps, though more commonplace and hence less suggestive, to have said that the temporal characters prominent in things are different from the temporal characters prominent in events, though things be considered as merely certain systems of events. It would be better to say that you can talk, in one sense, of a possible event, but not of an event's having possibilities, for only things have potentialities. Since we recognize a thing, an ob-

ject, as the same in new situations, it has, in this respect, characters similar to universals. So it becomes easy to generalize, and say of things what we ordinarily say of universals, that they are timeless and have no parts. But perhaps it would be better not to stretch the analogy too far. Professor Whitehead's paradoxes are largely verbal, and behind them lie some really significant distinctions, distinctions which it would be a pity to lose in any verbal quarrel or novel convention about language usages.

One of the most baffling problems of distinguishing between the verbal or conventional and the real is presented by the recent scientific theory of relativity. Professor Whitehead's entire work has been at every step influenced by these theories, and his own specific discussions of Einstein and of the curious arbitrariness of selecting light signals as the basic way of determining simultaneities, are among the best philosophical criticisms of relativity that have yet appeared. Professor Whitehead does not discuss the generalized relativity theory, but introduces in his own geometry Euclidean and continuity postulates. Also he does not make it clear, any more than does Einstein himself, precisely how the famous Newtonian argument for absolute space, from the phenomena of rotation, is answered by the relativist.

Professor Whitehead's own analysis would apparently and naturally lead him—though here we depart somewhat from his specific statements and deal with what seem to be unnoted implications—to a distinction between the space of events and the space of things—or rather, spaces of things, for not only are there various sorts of objects, but confining ourselves, for the moment, to ordinary physical objects, there are, if we consider space to be nothing but a relation between objects, different spaces for different sets of objects, as Professor Whitehead himself remarks, and an object which is standing still in one space is moving in another. Apparently, the space of events, or space-time of events, is one aspect of the events themselves, namely their extensity. According to Professor Whitehead, it constitutes an all-inclusive plenum, and if we limit ourselves strictly to events, the only possible geometry would seem to be a sort of "analysis situs" of inclusion-exclusion, curiously reminiscent of Aristotle's long-neglected theory that space is essentially a relationship of container and contained. It would seem, however, that without introducing objects, this space-time of events could not have any metrical properties, such as lengths. Fixity of units of length would involve recognition of sameness. The event-manifold is a "jelly-fish world," where no units are suggested, for there are no rigid bodies. But neither would there be simultaneity of remote events. The supposition that there would be simultaneity, and

hence "moments of time," is apparently tacitly introduced by Professor Whitehead. Yet the interconnection of simultaneity and units of length is one of the most central theses of the theory of relativity. The metrical structure is something new, independent, external, laid down over the manifold of events and fitting it somewhat loosely.

The Bergsonians inform us that needs of action have impelled us to try to fixate the fluidity of events by superimposing rigid mathematical forms. The situation seems nowadays almost the reverse: we are trying to measure given extensities with india-rubber yardsticks. These yardsticks are still comparable, since they vary according to law; but the law is their own law, and not one necessitated by the events to be measured. I measure a moving train, and discover it has "become shorter" as it moved. The passenger on the train replies that the train is just as it has always been, the discrepancy originated through my laying my measuring-tape on the front end of the train just a moment before I laid it on the back. Simultaneity and length are thus curiously interwoven by the relativity theory, but both are relative and comparative, and are superimposed on an extensity which is somehow absolute. A man in Washington, D. C., may quarrel over the telephone with a man in St. Louis, one declaring it is eleven o'clock, and the other that it is ten o'clock. Obviously, they are quarreling about the same time, and their quarrel is a verbal one concerning what name they are going to call "it" by. But the verbal quarrel is not purely verbal; it is based on a difference, not in the identity of the moment of time under dispute, but in the standard of comparison. Just so, the train has a certain absolute extensity. Otherwise there would be no question raised. But the instant there is an attempt to compare this extensity with other extensities, we have a difference of standards of comparison on our hands. There is not merely the obvious arbitrariness due to conventionality in selecting a particular yardstick; and not merely an idealization which creates for us a perfect "unchanging" Dr. Jekyll of a yardstick, despite the Mr. Hyde characteristics of actual physical yardsticks, infected as they are with what Professor Whitehead calls the "incurable vagueness" of all physical objects, plus some additional faults peculiar to yardsticks; but in addition, the very process of measuring involves new complications, so that there is more than one result possible even where you measure the same thing with the same yardstick. Would we could be naïve again, like the Bergsonians, and make a simple and rigid mathematics after our own wishes, instead of this Frankenstein's monster of a mathematics, that grows exuberant according to a will of its own!

Let us not be misled into supposing that mathematics is really growing less rigorous. Let us recognize the stern and stubborn precision of these novel mathematical-physical theories. But let us recognize that the mathematics popular among philosophers seems on the verge of joining other primitive mythologies. Philosophers tell us that Spinoza, for instance, tried to put his philosophy into mathematical form, with evident axioms and certain deductions. But the mathematical logicians have shown that self-evidently true axioms are no part of mathematics, and more than that, that the whole deductive-system-form is a device of exposition rather than the essence of mathematics. Philosophers have expatiated on the perfect simplicity of the "mathematical objects," these being numbers, or triangles, or mathematical points. But under Mr. Russell's analysis that Platonic world of numbers has disappeared; and now, under Professor Whitehead's analysis, the mathematical points and triangles are disappearing. Mathematics, bereft of everything that made it mathematics in the eyes of the philosophers, from axioms to infinitesimals, from triangles with angles necessarily equal to two right angles, and pairs of straight lines that can not enclose a space, to the contradictions of infinity and the independence of applied geometry from the empirical arrangements of matter—bereft of all these, mathematics goes on, greater and more triumphant than ever. When predictions based on a new use of non-Euclidean geometry recently made it possible for the first time to compare non-Euclidean and Euclidean geometry as applied to physical space, and Euclid lost, then even the man in the street heard something had happened, and was perplexed to understand it from the expositions given by our good professors of mathematics and astronomy, who had themselves been caught napping, expositions about as intelligible in most cases as the shout of the newsboys calling an extra. Everyone knew something had happened, but neither philosophers nor physicists were sure just what it was. They had suddenly been brought face to face with the startling possibility that those eccentric speculations on non-Euclidean geometries and the foundations of mathematics might somehow or other become the gateway to the science of the future, and the prospect was bewildering. Perchance some of them will now even try to read Mr. Whitehead's book—and we fear they will fail!

Professor Whitehead's book covers two hundred pages of big print. A really adequate review of the book would possibly occupy four hundred pages. Professor Whitehead has raised more questions than he has settled, felt the existence of problems he has not thought out. He has crowded into the closing chapters suggestions enough for another book—suggestions about causes and

about the relation of geometrical figures to sense, and about rhythms, including those queer rhythmic temporal structures called by the general name, "life." The present review might attempt to give neat little summaries of these, but we shall not. For then we should probably leave out the most valuable aspect of the discussion, its suggestiveness; and some reader of this review might suppose he knew the contents of Whitehead's book without reading it, and so continue to live in ignorance and self-approbation. If Professor Whitehead ever comes to perfect clearness about all the topics raised in this book, he will write another book that will be one of the great masterpieces of modern philosophy.

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Free Trade, the Tariff, and Reciprocity. F. W. TAUSSIG. New York: The Macmillan Co. 1920. Pp. ix + 219.

Professor Taussig, the former chairman of the United States Tariff Commission, has in this book gathered together a number of addresses and papers dealing with various aspects of the tariff controversy. The volume is characterized by more of unity than usually attaches to such a collection, and the reader will find in it a coherent, consistent presentation of the author's views on the main issues of the tariff question.

Mr. Taussig states his position in the opening essay. "The essence of the doctrine of free trade is that *prima facie* international trade brings a gain, and that restrictions on it presumably bring a loss. Departures from this principle, though by no means impossible of justification, need to prove their case, and if made in view of the pressure of opposing principles they are matter for regret. In this sense the doctrine of free trade, however widely rejected in the world of politics, holds its own in the sphere of the intellect" (p. 33). With force and clarity Mr. Taussig develops this thesis. In the course of his discussion he disposes of many of the popular fallacies concerning the advantages of protection which, many times refuted, still remain in circulation. Most illuminating is his treatment of "How tariffs should not be made," in which certain intimate and interesting details of tariff-making are revealed.

The final essay in the collection deals with the situation to be faced by the United States with the conclusion of peace. In a time marked by the uncertainties and confusions which characterize domestic conditions and foreign relations to-day, it is not surprising to find the author chary of dogmatism as to the future course of events. Upon the character of the ultimate peace depend the commercial relations and economic policies of the great powers. And

Mr. Taussig, with a wisdom probably in part born of his Peace Commission experience, refrains from prophecy as to what that final settlement may be.

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JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW, November, 1919. *The Nature of the Community* (pp. 547-561): WILBUR M. URBAN.—“A defense of philosophic orthodoxy.” By orthodoxy is meant the over-individual and monistic conception of the state. Views these two conceptions from the critical standpoints of fact and value, and defends a modified form of the orthodox conception. *The Pluralistic State* (pp. 562-575): HAROLD J. LASKI.—Advocates a pluralistic as opposed to a monistic conception of the state. A monistic state is “an hierarchial structure” with sovereignty spatially collected at the center. But such a view, it is held, is administratively incomplete and ethically inadequate. We are tending toward a partition of power on the basis of function and toward the judging of state actions by the same moral standards as any other actions. *Community as a Process* (pp. 576-588): M. P. FOLLETT.—Views community as a creating and integrating process in which the social process is patterned after Freudian psychology and the Bergsonian conception of change as qualitative. Such a view modifies the monistic conception of hierarchy, putting the inter-individual for the over-individual mind, and also puts unifying for the pluralist conception of reduction to unity. *The Community and Economic Groups* (pp. 589-597): JAMES H. TUFTS.—Notes examples of the conflict between political and economic forces with brief sketch of the background of present problems. Suggests three lines of reform: extension of political organization, syndicalism and “the giving of economic groups considerable functions as committees,” holding them to accountability. *Discussion: The New Rationalism and Objective Idealism*: MARY W. CALKINS, EDWARD G. SPAULDING. *Dr. Strong and Qualitative Differences*: MARGARET F. WASHBURN. *Reviews of Books*: W. R. Sorley, *Moral Values and the Idea of God*, G. WATTS CUNNINGHAM. J. W. Scott, *Syndicalism and Philosophical Realism*, W. P. MONTAGUE. J. S. Mackenzie, *Outlines of Social Philosophy*, WALTER G. EVERETT. James Gibson, *Locke's Theory of Knowledge and Its Historical Relations*, A. K. ROGERS. *Notices of New Books. Notes.*

PSYCHOLOGICAL BULLETIN, August, 1919. *Articles: An Experiment to Determine the Relation of Interests to Abilities* (pp.

259-262) : R. HARTMAN and J. F. DASHIEL. - The present experiment employed the method of ranking relative abilities and relative interests in six simple forms of psychological tests. Tests used: Word Completion, Code Writing, Immediate Retention of Visual Impressions, Arithmetic Problem, Pitching Pennies, Letter Cancellation. The results are thought to have some significance in the light of two considerations: (a) the indirectness of the method of calculating the ranks in ability, and (b) the nature of the activities used, these being mostly paper and pencil tests of the traditional type and presumably not calculated to arouse as varied interests as would activities chosen from wider fields. *Tests of Discrimination and Multiple Choice for Vocational Diagnosis* (pp. 262-267) : DAGNY SUNNE. - The McComas multiple choice experiment was given to disabled soldiers who had also been given the army Alpha Test, the Pintner Cube Test, and the Healy Picture Completion Test II. The coefficients show that the Alpha test rating would have been unfair to some of the men if used as the basis for selecting vocational courses. *The Function of Psychology in the Rehabilitation of Disabled Soldiers* (pp. 267-290) : BIRD T. BALDWIN. - A report of the work done at the Walter Reed General Hospital, Takoma Park, D. C. *General Reviews and Summaries: Drugs*: A. T. POFFENBERGER. A review of eleven references on drugs. *Reading*: E. H. CAMERON. A review of the work of Breed and Wembridge and Means. *Reaction Time*: V. A. C. HENMON. A review of the work of Angell, Macht and Titchener. *Special Reviews*: G. S. Hall, *Jesus, the Christ, in the Light of Psychology*: E. S. AMES.

Meeklin, John M. *An Introduction to Social Ethics: The Social Conscience in a Democracy*. New York: Harcourt, Brace & Howe. 1920. Pp. ix + 446.

NOTES AND NEWS

PROFESSOR JAMES H. TUFTS of the University of Chicago will lecture at Columbia University for the academic year 1920-21. His courses, as announced, include one on the History of American Thought, one on Moral and Political Philosophy, and a seminar in Ethical Theory.

Henry Holt & Co. announce for publication this month a new book by Professor John Dewey, entitled *Reconstruction in Philosophy*, based on the lectures which he delivered last year in Japan at the University of Tokyo.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE REALLY REAL

IN the course of his criticism a recent reviewer remarks of a certain volume of poems, "No one will expect the life-blood of realism in a book which blazons on its first page, 'Dedicated to Reality.'" The paradox may at first appear to result from the purely adventitious coincidence in the name of an esthetic and a metaphysical theory; yet there remains the haunting question: Is, then, the reality which the artist seeks to represent in sensuous imagery entirely distinct from the reality which the philosopher searches out in the naked simplicity of reason? Reality is a term so hallowed by tradition and yet so ever vital in the realms of ideal society, of Science, of Art, and of Religion; there have been and there are to-day so many men proudly boasting of their "realism" and yet differing so profoundly among themselves as to just what constitutes that "reality" which claims their devotion, that one is tempted to marvel at the vagaries of the human spirit, and to ask, with a vague sense of disillusion reminiscent of an earlier inquirer, "What is reality?"

There is a sense, of course, in which this question becomes the starting point of the philosophic quest, and to essay an answer would mean the setting forth on that long and arduous pilgrimage. Yet it is possible to ask the question in another mood, and to seek to discover, not the distant goal, but the nature of that inward urge which bids men seek it. One man returns and proclaims that he has found reality at last; that it is a wondrous land, a land passing the comprehension of those dull souls who have been content never to wander outside their own dooryards. Another comes back, after weary seeking, to discover it at home amidst the flowers and birds of his own garden. A third refuses to make any lengthy journey; he marches straightway to his stable and pokes in his dung-heap, exclaiming, as the hideous crawling things are exposed writhing in the sun, "Reality? Here alone is reality!" Another trods the well-beaten path to the neighboring chapel, another wanders down a lane with his beloved, still another searches in the slums of the great

city. And all the while the master of the house and his guest are seated at table, the one exclaiming, "Ah, but this is reality!" while the other rejoins, "There is no reality! Bring up another bottle!" There can be found, in fact, no place, however likely or unlikely, in which some seeker has not discovered the goal of his search; and all unite in paying homage to it under the common title of "reality." What, then, is this reality which beckons men on, yet never seems the same; which claims their allegiance, yet forever eludes their ken? Science is its comprehension, Art its expression, Religion its worship; it is the universal object of ideal society, and yet it is the cause of all those dissensions which break up ideal society into hostile and warring groups. Philosopher demolishes the system of his brother philosopher, artist rips up the canvas of his fellow artist, worshipper calls down the wrath of heaven upon his co-religionist, and all invoke in their aid the same god, the same reality. It does indeed appear as if a recent writer might be right when he said that reality seemed to be having its little joke upon the realists.

It would be useless, by pointing out the errors of previous thinkers and proclaiming another solution to the quest for the real, to inject a new source of contention into this welter of confusion and discord. Yet with realists on all hands in violent disagreement it is perhaps profitable to consider, if not what reality is, still what it means in human experience; what are its nature and function in those realms of ideal society which crown the Life of Reason. In the judgment, "This is real," with which the scientist refutes the man of common sense, the Platonist the scientist, the art critic the Platonist, and the statesman the art critic, what is it which these men of differing interest mean by the term they so freely bandy about?

Primarily, of course, "real" is a term implying a certain ontological status, and as such it contains a whole metaphysic of its own. This has been developed in scholasticism, that philosophic system whose rigid adherence to common sense notions has robbed it of the delightful wonders of more startling and deliciously upsetting views. There, "real" has been used as the adjective corresponding to "being," and the ontological question has become one of distinctions within being, of different kinds of reality. But this primary and colorless definition has never satisfied more adventurous souls; nor, in truth, has it exerted much influence among men at large. Turn to any dictionary and read through the dozen odd definitions there given of "real"; and in every case you will find that it is not an epithet descriptive of being in general, but rather a distinction made within it. When a man exclaims, "This is real," especially if

he be so impressed as to make of his discovery the basis of an artistic or a philosophic system, he means something very different indeed than if he had merely remarked, "This is," or "This has being," and the difference lies precisely in the "this." That which is real is, in common parlance as in more philosophical jargon, always set over against and opposed to that which is not real, or less real, or not "really" real. And, try as he may, the man who makes such a distinction can not refrain from a certain condescension, a certain patronizing air, toward that which he has assigned to a less exalted seat in his pantheon of being.

It is this enlisting of personal preference in behalf of certain ontological distinctions which makes the conflicting realisms so bitter and uncompromising toward each other. An artist could, perhaps, look with some measure of tolerance upon a brother artist who confessed a personal delight in portraying certain types of experience; but when that second artist insists that he is a "realist," that he is expressing things as they really are, he has committed the unpardonable sin, and no sarcasm is too biting to pour upon the miserable miscreant who has committed the supreme artistic hybris. One can accordingly fancy the thoughts in the mind of the framer of the definition of realism in the *Encyclopedia Britannica*, when he asserts that "the realist is he who deliberately declines to select his subjects from the beautiful or harmonious, and, more especially, describes ugly things and brings out details of an unsavory sort." Or one can picture the pitying scorn of the poet who dedicated the volume to Reality for the poor mortal who imagined a careful depicting of the outward trappings of life could express what life really is. And, on the other side, we know the contempt with which a political realist like M. Clemenceau regards the vaporings of vague idealism anent a league of nations and a world without wars. It is not so much the fact that the enlightened prefer to worship the Devil that matters; it is that they maliciously call him God.

To say, then, that a certain class of objects is "real," always implies that a distinction is being made; there is another complementary class which is not real. As Santayana remarks, man has an innate idealizing tendency, and has always been prone to look beyond the changing flux of immediate experience for something more permanent, something transcending the sense-world and its imperfections; and this something beyond, this realm of reason and not of sense, has been for those who have gazed upon it the ontologically fundamental, reality. In contradistinction to these Platonic spirits there have always been those who insisted that the real was not that which formed the object of mind, but rather the tangible and visible

objects which they met with in their daily experience. Protest and counter protestation: these have been, again and again, the history of man's spiritual adventures, and each new affirmation of reality has been equally a denial of reality to that which some other group has held dear.

So true is it that "reality" has been the name men have given to certain phases of experience which appealed to them as being fundamental that it is quite possible to classify individuals on the basis of what they hold to be real. A story is related of a man in a railway compartment who offered to tell his companions' professions if they would but answer a single question. He asked them, "What is life?" and from their responses he was able to reveal their souls. An even clearer insight could have been gained had the query run, "What is real?" The Platonist, the Aristotelian, the artist with his vision of perfection, the painter with his "realistic" portrait, the Utopian, the stern Realpolitiker—all would give away their secrets if they truly answered so searching a question. And such a classification would have many advantages over the arbitrary and artificial ones philosophers are wont to employ. It might indeed prove that definitions of reality reveal less about the ultimate nature of the universe than about their authors' souls.

For not only is "real" a distinction and an antithesis; it is also essentially a category of laudation and a judgment of value. A thing is not real merely because it happens to *be*; it must fulfil other conditions before it can be elevated to the supreme ontological rank. In this respect "reality" differs radically from "existence." The latter is a purely ontological category, to be awarded on the basis of experimental evidence, but it conveys in itself no implication of approbation. Indeed, there are those who, like Plato, regard a thing's existence as in some sense a degradation of its reality. Reality is rather an attribute pertaining to certain values, an honorary rank to which they are promoted; and as such, what values will be accounted real naturally depends upon the criterion and standard adopted by the realist. It is for this reason that what a man holds to be real is such an excellent test of his spirit, for it is a test primarily of his standards, his intellectual, moral, and artistic criteria.

Thus the logical realist fixes his gaze upon the chaste beauty of immutable form, and, putting beneath him as unworthy all thoughts of the kaleidoscopic flux of existence and the encroaching finger of time, yearns to dwell forever in that eternal universe. To call such pure forms "reality" is a judgment of value by no means attractive to those with a deep love for the warmth and immediacy of concrete experience, and we have men who, like James and Bergson, find real-

ity in the rich flow of life itself and disdainfully discard intellectual forms as the mere slaves of the really real. Still others find no reality in life; for them it is to be discovered in objects and things, in the discrete and pluralistic conglomeration of physical nature in which they find themselves. The artist will indignantly reject the photograph, with the curling lip, "That is not the real man, that is but his corpse," and strive to express, in perchance some weird drawing, his very soul; while his fellow will bewail the idealizations of the shallow throng, and paint the harlot at her blackest. No artist can escape the necessity of making this selection and of depicting reality according to his own judgment; even Zola, that arch apostle of the mirror theory of art, was forced to define it as "a slice of nature seen through a temperament." Or if we turn to morals we discover the same evaluating tendency. The Realpolitiker thinks in terms of power and armies and economic forces because they are the things which are valuable to attain his own ends; hence they are the realities of the situation, and he overlooks the importance of the imponderables, as the shrewder Bismarck called them, because he is in his nature so blunted that he is unable to reckon their value as contributions toward his goal. The ethical dreamer is likewise led by the supreme value he places on his vision of the perfect society to slight the obstacles in the way of its practical attainment; they do not constitute real problems for him because they are the bitter dream, not the reality to come. And if we turn to the religious life, we are met on one side with the proud boast, "I am a realist; I do not bother about God. Of that hypothesis I have no need," and on the other the mystic tells us, "God is the only reality; all other things are worthless compared with the supernal joy of His presence." There is no part of the Life of Reason to which we can turn to discover reality without having it duly impressed upon us that "reality" is a blend of fact and value, and that the determining element is the value.

This merging of the field of fact and the field of value might well invite censure did it obliterate a real distinction; and it is undeniable that man has had a tendency, not only to hypostatize his values, but to confuse them with existence itself. One has but to turn to the record of the subtler theological speculation of religious souls to behold the ease with which the supreme values of divinity are ascribed to the supreme physical power of the universe. This identification, this inverted physics, as Santayana calls it, is indeed a confusion of realms which, on the face of it, appears to have no logical justification; and it has bred in the past no end of trouble, not only for the natural order, thus gratuitously endowed with moral

values to which it modestly made no claim (which might have been expected), but even more for the realm of values itself. The identification of the good or the beautiful with the existent has given birth to the problem of evil and the problem of ugliness; and the latter, for a sensitive soul like Plato, might well assume the monumental proportions of the former. This problem, when it has received rational consideration, has inevitably resulted in the dulling of the moral and the esthetic senses, and the subtle assimilation of the value to the existence whose original purpose was merely to add another jewel to the crown of the good and the beautiful.

But the merging of fact and value which every attribution of reality exemplifies does not operate to obliterate such a distinction. In it, value is not assimilated to existent fact, but rather is fact assimilated to value; and the sting is removed by the sharp distinction usually preserved between reality and existence. In many cases, to be sure, existence is taken as the basis of value, and hence indirectly does become the reason for the attribution of reality; but this, far from proving that "real" is not essentially a category of laudation, merely impugns the validity of the criterion of value subscribed to by the particular realist. And one can not escape the conviction, after the salutary tragedy of the rise and fall of that empire founded on "realistic" politics, that even when existence is consciously assumed as the standard of value the practical outcome reveals other and less obvious bases of selection. On the other hand, the ascription of reality to a certain class of objects, even when it so far approaches existence as to imply a distinct power, means only that such an object is capable of inspiring in him who has hypostatized it devotion and emulation; when it does partake of the nature of cause, it is always as final and never as efficient cause that it operates. The boundary between the ideal and the existent is kept clear and distinct; the honorary appellation of "real" is, as it were, like one of those Papal titles of nobility which elevate the holder without imposing upon him the burden of a seat in the House of Lords, and the title remains equally a mark of honor whether the Pope bestows it upon some obscure benefactor of the church or, as some Popes might prefer, upon some proud British peer.

If, then, it may be regarded as established that "real" is a distinction made in experience on the basis of value, and that the confusion noted in all the realms of ideal society springs from a varying standard of value rather than from differences as to experimental proof of precise ontological status, it must be admitted that much light has been thrown upon the original question of the function of reality in human experience. The quest of reality, which we found

to be the goal of Science, of Art, and of Religion, and which we found resulted in so much of disagreement and dissension, resolves itself into the search for standards of value, not of existence; and the Life of Reason becomes just such a development and criticism of values and criteria. It can not be expected that the artist will ever allow a dispassionate examination of existence to determine for him what is real, and that he will then abjure his former ways and devote himself wholeheartedly to the expression in plastic medium of that empirically verified reality. He might well retort that the mere fact of the existence of such and such salient characteristics in nature and in man was indeed interesting, but that it hardly touched his art; his task was to reflect man and his world, not as he seemed, but as he really was, and that "really" would let in again the whole gamut of the artistic schools. Nor will either the Utopian or the Realpolitiker accept the results of a future science of society as the final arbiter of the exact nature of political life. Undisturbed by the results of careful analysis, the former will continue striving to realize the reality he has beheld in the sky, while the latter will continue to ignore those qualities in human nature which fail to minister to his aims. And no searching of the heavens in vain with the latest instrument of the astronomer will convince the religious soul that he does not know the Living God. It is not by any description of existence that these opposed schools can ever be united as to what is real. It is only by a reasoned criticism of values, and by the carrying forward of a process of harmonization and adjustment in the light of some higher standard, some greater and more inclusive criterion, that men can hope to achieve some measure of, not, in truth, agreement, but of tolerance and insight into each other's hearts. Only then, out of the fullness of their ripened wisdom, can they cooperate in the enjoyment of the rich symphony of those values which are found to have their place in a well-rounded Life of Reason.

And, specifically, this conclusion as to the function of reality has a direct bearing upon the theories of those modern thinkers who have arrogated to themselves the honor of being the only complete and thoroughgoing realists, and find great difficulty in denying even to the pathetic and orphaned round-square that reality which they so generously bestow on all else that comes within their ken. To such "neo-realistic" followers of Meinong "real" has virtually ceased to have a meaning; they are concerned, not with drawing a distinction, but with insisting that distinctions drawn by those who lovingly bestowed reality upon their favorite objects have no validity, and with reducing the whole universe, from the veriest raving of the

maniac to the existent rock, to precisely the same ontological status. Between such men and idealists like Bradley, who likewise seek to obliterate distinctions by denying reality to anything, even as they themselves affirm it of everything, there is little to choose; except, indeed, as the idealists restore what they have destroyed by their saving doctrine of degrees of truth and reality. Such thinkers identify "reality" with the colorless "being," and it is indeed possible to pursue such a course. But then it is necessary to introduce once more, this time within reality, those very distinctions which have just been so laboriously smoothed over, and there hardly appears a sufficient reason for thus expunging from the philosophical vocabulary a term of such time-honored service and such potent appeal as "reality." Such a procedure seems scarcely consonant with that sharpening of critical powers and that increasing delicacy of refinement upon which the hope of the development of more perfect standards and more harmonious adjustments of values seems to rest.

The potency of "real," in fact, as a philosophical instrument, lies precisely in its ability to gather into a single focus those varied values which claim men's devotion and to free them of the meaningless accretions of existence. It is by this power of clarification that it has revealed the path which has enabled men to advance toward their chosen goals. This the present-day realists throw overboard, preferring the fullness of vision which springs from an equal insistence upon all the richly varied content of experience to that singleness of aim and that peace of soul which come only with an ordered arrangement of the generous gifts of life into a universe, a universe at whose head stands a clearly envisaged reality.

In contradistinction to such an ordered achievement of reason the universe of the new realists appears without vistas, without paths leading to any particular goal. To some, indeed, the very superabundance with which it has been provided, the rich intricacy of its interlacing structure, proves more of an impediment than an aid. They feel choked, stifled, by the luxuriant tangle, and have a sense of struggle against the bonds which tie them hand and foot and constrict the free movement of their limbs. When, for instance, one is called, on looking upon an empty white canvas, to see there all the pictures which have ever been painted, together with the infinitely greater number of those which might have been, but have not yet inspired the painter's brush, one's imagination is overwhelmed and dulled, and one longs for the clear vision which will reveal, not such a riot of confused forms, but the one picture which the urgings of the soul impel the artist to set down, the *real* picture amidst all the

goblins and wraiths of a dead past and an unborn future. There is an indescribably eery sensation resulting from the vivid realization of such a universe, which, curiously enough, seems all ghost just because all real, just because there are no high lights. The doctrine of Bruno comes to mind, that where all is thus actual all is at the same time potential, and one can not help feeling that somehow one has left the sunlit paths where familiar things are what they seem for a strange enchanted forest where in most disconcerting fashion opposites merge into one. And one joyfully welcomes the ringing challenge of Bertrand Russell that realism must preserve its distinctions. He at least recognizes the true meaning of reality, and like some medieval mystic he proclaims that all experience is appearance and mere sensibilia; the world of reality is not what it seems, but is motionless and frozen in its icy precision, yet bathed withal in a wondrous light. One may not agree with him in overlooking man in his insignificance, but one can not help admiring the boldness with which he deifies that which for him has supreme value. His is not the lazy tolerance of an indifferent spirit; he has a new gospel to preach, and he is not afraid to condemn the idolatry of the pagan.

It behooves all searchers after reality, therefore, especially if they claim to be realists, to remember that they are seeking to make a distinction in experience, nay, to make the supreme distinction, that between what merely is and what is real. And it is well for them to bear in mind, as they pursue this philosophic quest, whether they be lovers of wisdom who would comprehend the real through reason, or artists who would formulate it in plastic beauty, or statesmen who would lead mankind to a greater enjoyment of its fruits, or religious souls who would simply fall down and worship it, that that which is the object of their differing endeavor is essentially a value, the Supreme Value, whose elaboration and further development lies not in the mere discovery of fact or the delimitation of existence, but in the harmonizing and synthesizing process of the Life of Reason.

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A NOTE ON THE RELATION OF PSYCHOLOGY TO ANTHROPOLOGY

IN his recent address at St. Louis,¹ Dr. Aleš Hrdlička has made a candid attempt to resolve a vexed and complicated problem, the problem of the mutual relations of anthropology and psychology. No one who has followed the fortunes of that section of the American Association for the Advancement of Science (Section H), which has

¹ *Science*, LI., 199-201, February 27, 1920.

included—at least in its title—these two subjects, need be told that the relationship in question has been both ambiguous and vague. The anthropologist's address has notably advanced the problem in two ways: it has set forth certain fundamental difficulties and it has redefined for us the province of anthropology.

What Dr. Hrdlička has further sought is an acceptable definition of psychology; a definition which should promote clear understanding and allow an equitable partition of intermediate territory. He first turned to "a series of the foremost representatives" of psychology, for help which—as he has to acknowledge—"did not materialize." Which psychologists were included in "the series" the reader is not told. The anthropologist might have fared better had he resorted directly to general treatises. In a similar inquiry the present writer recently referred a score of intermediate students to a dozen or more current works, citing by chapter and verse each author's formal definition and asking each student to formulate his own conception. The result was satisfactory beyond the writer's anticipation. It brought to the laboratory an intelligent and fairly concurrent opinion regarding the object and the scope of psychology. These twenty persons succeeded by critical scrutiny in extracting from the books a decent—if tentative—working conception of the subject. Apart from those writers whose chief concern lies, according to their own frank admission, either in medicine, or in philosophy, or in organic evolution, or solely in the performances (the "behavior") of the physical organism (a sort of dynamic ecology), the differences to be found are, for the most part, differences of emphasis. This statement accords with the conclusions reached in the recent formulations of the committee on terminology of the American Psychological Association.² The committee of five members was charged "to consider the matter of uniformity of usage of psychological terms." Its own definitions were submitted for revision and extension to the members of the Association. As regards psychology at large, the definition which finally proved to be most acceptable to a majority of American psychologists runs as follows: "Psychology is the science of mental phenomena." It appears from the report of this committee that the only other formulation which seriously competes with the foregoing places more emphasis upon the relation of the organism, mental and physical, to the environment; but even here (to omit again the studies which are *purely* biological or ecological), "mental phenomena" or, more briefly, *mind* appears to characterize the subject-matter and the scope of the science.

² *Psychol. Bull.*, 1918, XV., 89-95. It is regrettable that it should not have occurred to any one of the speaker's "series of the foremost representatives" of psychology to refer the anthropologist to this clarifying report.

Psychology's main concern is, then, with *mind*—mind as it is constituted, as it is organized, as it runs its fluent course, as it depends upon bodily processes, as it develops in the individual, the species and the race, as it suffers aberration and defect in disease, as it creates language, custom, law, opinion, and tradition, as it is molded and modified in "social" groups, or as it is allied with bodily functions in such accomplishments as the attainment of knowledge, the revival of the past and the individual's adjustment to the shifting conditions of life. *Mind*: now directly scrutinized under experimental conditions, now inferred from other empirical facts, now implied in its products and its monuments—but always *mind*. Here the method is descriptive, there comparative, again genetic, or still again hypothetical and explanatory, as in Freudianism and psychoanalysis. Diversity of problems and diversity of methods, to be sure; but no necessary diversity in general scope or undertaking or standpoint.

Failing in his search for a definition, Dr. Hrdlička turned to the bibliography of his neighboring discipline and tried to discern among the annual list of titles in the *Psychological Index* the real place and scope of psychology. He was thus led to the conclusion that our interests "range from anatomy and histology of the nervous system to mathematics, on the one hand, and metaphysics, on the other, covering practically the whole vast range of phenomena relating to the nervous system and mental activities of man and animals." A relatively large place is given—as he finds—to neurological titles, "28 per cent. dealing with neuropathology and psychiatry, 6.5 per cent. dealing with sociology, ethics, and philosophy, 3.5 per cent. were mixed and indefinite," and so on. The anthropologist is evidently confused by the heterogeneity of the list, for he concludes that it "shows indefiniteness, incomplete crystallization."

Now no one would be disposed to deny that such a bibliography as the *Index* suggests a wide variety of topics and of interests. A caution, however, may well be entered against the inference which the critic draws from his inquiry. In the first place, he was unfortunate in the volume (1918) which he chose. A relatively large number of productive psychologists had then temporarily withdrawn from the laboratories for governmental service. Those who remained were distracted by new and peculiar duties. The literary output was diminished by at least one-half. Furthermore, there appeared in the year 1918 a vast amount of pathological material which spread well beyond its usual limits. The traumatism of war, nervous disorders and mental diseases loomed large; and the every-day work of the laboratories was correspondingly reduced. Another year's bibliography

would more accurately have reflected the normal interests and endeavors of the psychologist. In the second place, it must be observed that no general bibliography of a fundamental science or a group of related disciplines represents a closed and coherent system. Were Dr. Hrdlička to run through the files of the *Index Medicus*, of *Bibliographia zoologica*, *L'année pédagogique*, *Bibliographie der Sozialwissenschaften*, or, possibly, the Bulletins bibliographiques of *L'Anthropologie*, he would find in those lists, too, both a bewildering variety of topics and a mass of material the inclusion of which appears, upon the surface, to be of doubtful propriety. Of course, the more seasoned the science the more coherent the rubrics and the more logical the arrangement; but the difference is merely a difference of degree.

Several years ago, when I undertook to bring out the *Psychological Index*, I began with the zeal of the reformer. It seemed to me that I could easily cut ragged corners, revise the headings, and eliminate a great deal of material which was not—as I thought—real and proper psychology. Thanks to the patience of the former editor, Professor Warren, I learned wisdom. I discovered that the bibliography had to be arranged, above every other consideration, for the easy and convenient use of the psychologists of the world. It was designed as an aid to men, of whatever training and of whatever special interest, who sought to make use of the year's publications in any special field and for the solution of any particular problem. The bibliography had—so far as its internal arrangement was concerned—to speak a universal language. Logical relations and systematic implications had, so to say, to be reduced to their lowest common denominator. The *systems* of psychology reside elsewhere: they reside in the working plan of the trained psychologist who has acquired a wide perspective in his broad field. Systems differ. There is no doubt of that. They differ more decidedly in psychology—and, very likely, in anthropology—than in some of the physical sciences of longer lineage and with less complicated histories. The important point to be observed in this connection is the propriety of invoking the systematic and comprehensive works rather than an empirical collection of titles which subserves quite a different purpose.

In spite of his disappointment over the "indefiniteness" of psychology, Dr. Hrdlička has generously expressed the hope that anthropology will presently arrive at a conjunctive understanding with her neighbor. He expects psychology to "enlarge the scope of its activities, until no small part of these shall really become anthropological." Psychologists may not all support the conviction that their

subject "will unquestionably find its choicest field in group studies;" but they will not fail to appreciate the friendly counsel and criticism of the anthropologist. The critic's own definition of his subject should go a long way toward the affiliation which he desires. "The science of human variation, both in man and in his activities," would seem to stand in fairly close and fairly definite relations to the science of mind; in relations at least as close and as definite as anthropology now sustains to the two groups of biological and social sciences with which it shares at once its "comparative method" and certain of its major problems. For the time being, such substantial works as Lévy-Bruhl's *Les fonctions mentales dans les sociétés inférieures* and Wundt's compendious *Völkerpsychologie* unmistakably affirm a common interest and clearly call for concordant endeavor.

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REVIEWS AND ABSTRACTS OF LITERATURE

Complete Works: PLOTINUS. Tr. by KENNETH SYLVAN GUTHRIE.
4 vols. Platonist Press, Alpine, N. J.

Dr. Guthrie has here given us what professes to be the first complete translation of Plotinus into English. Whatever one may think of the value of the Plotinian metaphysics, it must be confessed that such a publication ought to be a great event in philosophical scholarship in America. For now the student who has had practically nothing in English except the *Select Works* by Thomas Taylor, published in 1817 in London, and later reprinted for the Bohn Library, the scattered books translated by Stephen McKenna, and the fragmentary translations of Dr. Fuller in Bakewell's *Source Book*, has all the works put into fairly clear and intelligible English and arranged not in the more or less arbitrary order assigned them by Porphyry, but in the order in which they were written. This may be a mixed blessing, for all references to the *Enneads* are after all to the Porphyrian numbering, which Dr. Guthrie has been considerate enough to preserve at one side, and one could see the grouping which Plotinus's most distinguished pupil thought most appropriate. Still it gives one a certain insight into the development of the thoughts of the master of Neo-Platonism as he saw fit to write them down, in the latter part of his life.

The volumes in which Dr. Guthrie presents his work are convenient in size and not badly printed, although an occasional misprint serves to annoy the reader, if not to bewilder him. Yet the

translator assures his readers that he realizes the book is not perfect, and begs them to be charitable "in view of the stupendousness of the undertaking, in which he could get practically no assistance of any kind, and also in view of the almost insuperable difficulties of his own career" (Foreword, Vol. I., p. 2).

It is extraordinary to find that Dr. Guthrie could get practically no assistance. Students of Plotinus are by no means overcrowding the study halls, but they are fairly numerous and not at all unfriendly. There was always the author of *The Problem of Evil in Plotinus*, in America, who has been called upon on one or two other occasions to give assistance; there was Professor Picavet of the Collège de France and of the Sorbonne, who has devoted a great part of his long life to the establishment of Plotinus's reputation as the real master of the medieval philosophies, and who would have been only too delighted to feel that someone in the United States was sufficiently interested in his favorite topic to attempt a translation of the *Enneads*. And there were always the classic translations. There was the translation of Ficino, reprinted in the Creuzer-Duebner text as published by Didot, which Dr. Guthrie certainly knows as he has made use of its numbering in his translation of Enn. III., viii (Vol. II., p. 531). There was the translation of Mueller in German and of Bouillet¹ in French.

Now when a scholar makes a translation of a standard work, it is only to be expected that he compare what he has done with what others have done, that he see wherein he differ from them, and wherein he gain support from them. When the work in question is notoriously difficult and obscure, when the text is rough and uncouth, when there exists no complete commentary on it and no index to its words, it is almost a duty to consult the works of other scholars for help and guidance. But Dr. Guthrie scarcely admits a knowledge of other work on his author except that of Drews. And yet his translation is due to the efforts of one man alone, the French savant, Bouillet, whose translation of Plotinus has been the source of Dr. Guthrie's without any acknowledgment whatsoever.

It is the purpose of this notice to prove that Dr. Guthrie has simply presented to the American philosophical public a word-for-word translation of Bouillet, except in one book, the original of which may be or may not be Plotinus's text itself. It is not our purpose to make a satisfactory review of the translation as a whole. Dr. Guthrie had the right to make whatever kind of translation he desired; but honesty would have compelled him to admit the source of what he was translating.

¹ M-N. Bouillet: *Les Ennéades de Plotin*, Paris, 1857, 3 vol.

To prove our point we shall give a few examples of the following sort:

(a) Comparison of a passage selected at random from Bouillet and from Guthrie, to show their typically intimate relation.

(b) Comparison of a passage selected at random from Guthrie and Fuller,² to show their relative difference, and to show that the supposed similarity between Guthrie and Bouillet is not accidental.

(c) Comparison of texts from Guthrie and St.-Hilaire to show their difference.

(d) Incorporation in Guthrie's text of material inserted in Bouillet's text for purposes of explanation; these passages of course do not exist in the Greek.

(e) Relegation to foot-notes by Guthrie of explanatory material printed in brackets by Bouillet.

(f) Incorporation in Guthrie's text of what is in footnotes in Bouillet.

(g) Comparison of texts of Guthrie, Bouillet, and the Greek original, where Bouillet has expanded expressions from the Greek or inserted new expressions and Guthrie has preserved them.

(h) Comparison of texts from Bouillet and Guthrie as an instance of what does not seem to have been a translation from the French.

(a) THE INTIMATE RELATION BETWEEN GUTHRIE AND BOUILLET

1. *Ennead*, IV., iii, 26.

Bouillet (Vol. II., p. 315 f.) : "Si les deux éléments qui composent

Guthrie (Vol. II., p. 430 f) : "If the two elements which compose
l'animal concourent à l'acte de la sensation, la sensation est *com-*
the animal share in the act of sensation, the sensation is *com-*
mune à l'âme et au corps, comme les actes de percer, de tisser.
mon to the soul and the body, such as the acts of piercing or weaving.
Ainsi, dans la sensation, l'âme joue le rôle d'artisan et le
Thus in sensation, the soul plays the part of the workman, and the
corps celui d'instrument: le corps éprouve la *passion* (πάσχει) et
body that of his tool; the body undergoes the experience, and
sert de messenger à l'âme; l'âme perçoit l'*impression* (τύπωσις)
serves as messenger to the soul; the soul perceives the impression
produite dans le corps ou par le corps; ou bien encore elle porte un
produced in the body, or by the body; or she forms a
jugement (κρίσις) sur la passion qu'il a éprouvée.
judgment about the experience she has undergone.

² Dr. B. A. G. Fuller, in Bakewell's *Source Book*.

Il en résulte que la sensation est une *opération commune* à l'âme et
 Consequently sensation is an operation common to the soul and
 au corps.
 body.

“Il n'en saurait être de même de la mémoire,
 “This could not be the state of affairs with memory,

par laquelle l'âme, ayant déjà par la sensation perçu
 by which the soul, having already through sensation perceived
 l'impression produite dans le corps, la conserve ou la laisse échapper.
 the impression produced in the body, preserves it, or dismisses it.

On prétendra peut-être que la mémoire aussi est commune à l'âme
 It might be claimed that memory also is common to the soul
 et au corps, parce que sa bonté dépend de notre
 and body, because its efficiency depends on the adjustments of the
 complexion. Nous répondrons que le corps peut entraver ou non
 bodies. No doubt the body can hinder or promote
 l'exercice de la mémoire, sans que cette faculté cesse d'être propre
 the exercise of memory, without this faculty ceasing to be peculiar
 à l'âme. Comment essaiera-t-on de prouver que le souvenir des
 to the soul. How shall we try to prove that the memory of
 connaissances acquises par l'étude appartient au composé et non à
 knowledge acquired by study, belongs to the compound, and not to
 l'âme seule? Si l'*animal* est le composé de l'âme et du corps,
 the soul alone? If the organism be the composite of soul and body,
 en ce sens qu'il est une troisième chose engendrée par leur union, il
 in the sense that it is some third object begotten by their union, it
 sera absurde de dire qu'il n'est ni l'âme, ni le corps. En effet, il
 will be absurd to say that it is neither soul nor body. Indeed, it
 ne saurait être une chose différente de l'âme et du corps, ni si
 could not be anything different from the soul and body, neither if
 l'âme et le corps sont transformés dans le composé dont
 the soul and body were transformed into the composite of which
 ils sont les éléments, ni s'ils forment un *mixte*, de telle sorte que l'âme
 they are the elements, nor if they formed a mixture, so that the soul
 ne soit plus qu'en puissance dans l'animal; même dans ce cas,
 would be no more than potentially in the organism. Even in this case,

c'est encore l'âme, et l'âme seule qui se souviendrait. Ainsi, dans it is still the soul, and the soul alone, that would remember. Thus in un mélange de miel et de vin, si l'on sent quelque douceur, c'est a mixture of honey and wine, it is the honey alone that should au miel seul qu'il faut l'attribuer." be credited with any sweetness that may be tasted."

Now no one can read these two texts so placed on the page and not be struck by their similarity. It is not enough to say that they naturally would be similar coming from the same original, for there are a few expressions which are peculiar to these two renderings of the Greek and not to others. One could point to the rendering of *ὑπηρέτου* as "serves as messenger to the soul" (*sert de messenger à l'âme*), although any phrase which would indicate service would do. One might point to the use of the third personal feminine pronoun with *soul* for its antecedent. But clearer cases are coming. This random selection is simply to serve as a sample of the average relation between the two texts.

Let us now compare two English translations by Fuller and Guthrie, to show that they are by no means the same even though they both are translations from the same text, and to throw added light on the fact that the similarity between Bouillet and Guthrie is not accidental. We are limited in our choice of texts to those we have at hand, which are—on Dr. Fuller's part—simply the texts he has translated for Professor Bakewell.

(b) COMPARISON OF PASSAGES SELECTED FROM FULLER AND GUTHRIE
1. *Ennead*, V., ix, 5.

Fuller (Bakewell, *Source Book*, p. 357): "It is necessary to understand then by intellect, if we are to attach any true significance to the name, not the potential intellect, or the intellectual knowledge developed out of ignorance. Did we, we should have to seek for yet another intellect prior to this. By intellect we are to understand that which is intellect *in actu*, and eternally. But if its thought be not imported from without, when it thinks anything it must itself be the occasion of its thought, and when it is possessed of any object be the occasion of that possession. But if it be the occasion and source of its thought, it will itself be the object of its thought. For were its essence one thing, and the object of its thought another, its essence would not be an intelligible object, *etc.*"

Guthrie (Vol. I., p. 107): "Taking it in the genuine sense, Intelligence is not only potential, arriving at being intelligent after

having been unintelligent—for otherwise, we would be forced to seek out some still higher principle—but is in actualization, and is eternal. As it is intelligent by itself, it is by itself that it thinks what it thinks, and that it possesses what is (*sic*) possesses. Now since it thinks of itself and by itself, it itself is what it thinks. If we could distinguish between its existence (*sic*) and its thought, its 'being' would be unintelligent; it would be potential, not in actualization. Thought, therefore, must not be separated from its object, although, from sense-objects, we have become accustomed to conceive of intelligible entities as distinct from each other."

Reading this, one recognizes the similarity of thought, but no one would be so bold as to accuse either of these translators of being influenced by the other. For the manner of expression is entirely different. The sentence structure is not the same, the use by one of the scholastic expression *in actu*, and by the other of *in actualization*, shows a difference, in a measure, in habits of thinking. But as soon as one sees the French, one has no doubt whatsoever of the origin of Guthrie's phraseology and sentence structure. Bouillet begins, and to save space we give only his beginning (Vol. III., p. 137): "L'Intelligence, pour prendre ce mot dans son vrai sens, n'est pas seulement en puissance, n'arrive pas à être intelligente après avoir été inintelligente (sinon, nous serions obligés de chercher encore un autre principe supérieur à elle); elle est en acte, elle est éternelle, etc., etc." The very parentheses are retained by Guthrie.

But, one might ask, maybe any French text would show similar peculiarities, and similar resemblance to Guthrie's. Even though another English translation might be different, another French translation might be like it. This is, of course, rather an imaginary objection, but it is interesting to see how different Guthrie is from St.-Hilaire, for example, whose text is at hand.

(c) GUTHRIE AND SAINT-HILAIRE

Ennead, II., viii, 1.

St.-Hilaire (*De l'Ecole d'Alexandrie*, p. 199): "Pourquoi les choses éloignées semblent-elles plus petites? Pourquoi, tout écartées qu'elles sont les unes des autres, paraissent-elles se toucher? Pourquoi les choses rapprochées nous semblent-elles aussi grandes qu'elles le sont réellement, et n'avoir entre elles que la distance qu'elles ont vraiment?"

"Les choses éloignées semblent rapetissées parce que la lumière se comprime suivant la vue, et se réduit à la dimension de la pupille. Plus la matière de l'objet visible est éloignée, plus l'image nous en arrive comme isolée de l'objet; c'est en quelque sorte une image de sa quantité et de sa qualité, qui nous parvient, etc."

Guthrie (Vol. III., p. 680): "What is the cause that when distant visible objects seem smaller, and that, though separated by a great space, they seem to be close to each other, while if close, we see them in their true size, and their true distance? The cause of objects seeming smaller at a distance might be that light needs to be focused near the eye, and to be accommodated to the size of the pupils; that the greater the distance of the matter of the visible object, the more does its form seem to separate from it during its transit to the eyes; and that, as there is a form of quantity as well as of quality, it is the reason (or form) of the latter, *etc.*"

But turn to Bouillet and one finds no such dissimilarity. We find (Vol. I., p. 250), "D'où vient que, dans l'éloignement, les objets visibles paraissent plus petits, et que, bien que séparés par un grand espace, ils semblent être voisins, tandis que, s'ils sont près de nous, nous les voyons avec leur vraie grandeur et leur vraie distance?"

"Si les objets paraissent plus petits dans l'éloignement, est-ce parce que la lumière demande à être rassemblée vers l'oeil et accommodé à la grandeur de la prunelle, *etc. etc.*" We can stop here, for this much shows the similarity which we are trying to show. It should be noted in passing that Guthrie often translates Bouillet's rhetorical questions by the English potential. One must not be led astray by that, however.

(d) INCORPORATION IN GUTHRIE'S TEXT OF MATERIAL INSERTED
IN BOUILLET'S FOR PURPOSES OF EXPLANATION, WHICH
MATERIAL DOES NOT EXIST IN PLOTINUS

1. *Ennead*, V., iv, 2.

Bouillet (Vol. III., p. 67): "Mais, outre cet Intelligible (indentique à l'Intelligence) il y a un autre Intelligible (l'Intelligible suprême, le Premier)."

Guthrie (Vol. I., p. 136): "But besides this intelligible (entity, namely intelligence), there is another (higher) intelligible (the supreme Intelligible, the First)."

2. *Ennead*, IV., ix, 3.

Bouillet (Vol. II., p. 499): "... on trouve que la *sensation* n'est pas semblable dans toutes les parties, (c'est-à-dire dans toutes les âmes particulières), que la *raison* n'est pas dans le Tout (mais dans certaines âmes seulement) . . ."

Guthrie (Vol. I., p. 143): "... we find that sensation is not similar in all its parts (that is, in all the individual souls); that reason is not in all (but in certain souls exclusively) . . ."

3. *Ennead*, II., iv, 11.

Bouillet (Vol. I., p. 212) : After the account of a supposed objection by an Aristotelian: “. . . (Voici la réponse que nous ferons à cette objection) . . .”

Guthrie (Vol. I., p. 210) : “. . . (Our answer to the above objection is this) . . .”

4. *Ennead*, III., ix, 1.

After an opening paragraph on one of the implications of the Platonic doctrine of the relation of the Ideas to the Intelligence, Bouillet adds (Vol. II., p. 239) : “(Il nest pas nécessaire d’admettre cette consequence.)” Guthrie (Vol. I., p. 220) parallels this bracket with “(This consequence is not necessary.)”

These are only a few examples of what is common to almost every page of Guthrie and Bouillet. Though they seem to skip about in the *Enneads*, it must not be forgotten that the order of the *Enneads* is not the order of Guthrie’s translation. It is safe to say that Guthrie always preserves explanatory parentheses from Bouillet. Needless to say these parentheses do not exist in the Greek text.

Sometimes Guthrie does not leave these explanatory brackets in the body of the text but relegates them to footnotes. Let us have some examples of this practise.

(e) RELEGATION TO FOOT-NOTES BY GUTHRIE OF EXPLANATORY
MATERIAL PRINTED IN BRACKETS BY BOUILLET

1. *Ennead*, IV., viii, 2.

Bouillet (Vol. II., p. 479) : “Le D miurge (qui est l’Ame universelle) . . .”

Guthrie (Vol. I., p. 121) : “Does the Demiurge . . .” (Footnote : “The Creator, who is the universal Soul”).

2. *Ennead*, VI., ix, 8.

Bouillet (Vol. III., p. 556) : “Les corps ne peuvent s’unir entre eux (parce qu’ils ne se laissent pas p n trer) . . .”

Guthrie (Vol. I., p. 164) : “Bodies can not unite mutually . . .” (Footnote : “Because they do not allow of mutual penetration.”)

3. *Ennead*, V., i, 1.

Bouillet (Vol. III., p. 3) : “. . . le d sir de n’ appartenir qu’  elles-m mes (c’est   dire le d sir qui a conduit les  mes   se s parer primitivement de Dieu et   s’unir aux corps).”

Guthrie (Vol. I, p. 173): "... the desire to belong to none but themselves." (Footnote: "That is the desire which leads souls to separate themselves primitively from the divinity and to unite themselves to bodies.")

4. *Ennead*, II., v, 3.

Bouillet (Vol. I, p. 230): "Ainsi, dans le monde intelligible, il y a des choses qui sont ou ne sont pas en puissance. Mais l'âme est la *puissance* de ces choses (*la puissance de produire* et non la *puissance de devenir* ces choses." This is followed by a footnote referring to Aristotle, *Métaph.*, X., 2.

Guthrie (Vol. II., p. 346): "Thus in the intelligible world there are things which exist, or do not exist potentially. But the soul is the potentiality of these things." The brackets of Bouillet here again appear as a footnote: "That is, their producing potentiality, and not the potentiality of becoming these things as thought Aristotle, *Met.*, X., 2."

Now just as Guthrie sometimes put Bouillet's brackets into footnotes so he also sometimes puts Bouillet's footnotes into brackets, incorporating them in the text as explanatory matter.

(f) INCORPORATION IN GUTHRIE'S TEXT OF BOUILLET'S FOOTNOTES

1. *Ennead*, II., v, 1.

Bouillet (Vol. I, p. 223): The opening words of this book are, "On dit que telle chose *est en puissance*, que telle chose *est en acte*." Bouillet then gives a note explaining that the "on" is Aristotle.

Guthrie (Vol. II., p. 341): "(Aristotle) spoke of (things) existing 'potentially' etc."

2. *Ennead*, V., iv, 4.

Bouillet (Vol. III., p. 136): "Qu'on ne croie pas, comme le font quelques-uns . . ." These "quelques-uns" are then explained thus in a footnote, "Creuzer pense que Plotin désigne ici Anaxagore ou Démocrite. Nous croyons qu'il s'agit des Stoïciens, parce que notre auteur les réfute par les mêmes arguments dans l'*Ennéade*, IV., liv. vii, § 8, no. 14; t. II., p. 457-459."

Guthrie (Vol. I, p. 106): "The Stoics are wrong in thinking . . ." Then footnote, "Stoics, see iv, 7, 8." It should be remarked in passing that Guthrie does not bracket "Stoics," apparently being so convinced of the truth of Bouillet's opinion that he felt that Plotinus himself should have included the name in his text.

3. *Ennead*, II., iv, 1.

Bouillet (Vol. I, p. 195): "La matière est un *sujet* . . ." Footnote: "Le *sujet*, c'est ce dont tout le reste est attribut, ce qui n'est attribut de rien. (Aristote, *Métaphysique*, VII., 3.)"

Guthrie (Vol. I., p. 197): "Matter is a substrate (or subject) underlying nature, as thought Aristotle." Footnote: "(*Met.* VII., 3.)" Again, as in example 2 above, "as thought Aristotle" is not bracketed.

4. *Ibid.*

Bouillet (Vol. I., p. 196): "D'autres admettent que la matière est incorporelle." Footnote after "D'autres," "Les Pythagoriciens les Platoniciens, les Péripatéticiens."

Guthrie (Vol. I., p. 198): "Others (Pythagoreans, Platonists, and Aristotelians) insist that matter is incorporeal."

5. *Ennead*, III., ix, 2.

Bouillet (Vol. II., p. 241): "La totalité d'une science se divise en propositions particulières, etc., etc." Footnote: "Porphyre attribue cette comparaison à Nicolas de Damas. Voy. *Des Facultés de l'Ame*, t. I., p. xcii. Voy. aussi *L'Ennéade*, IV., liv. ix, no. 5."

Guthrie (Vol. I., p. 222): "(As Nicholas of Damascus) used to say, the totality of a science is divided into particular propositions . . ."

6. *Ennead*, III., iv, 1.

Bouillet (Vol. II., p. 88) translated the Greek *ὑπόστασις* by "hypostase" with a footnote saying, "Ficin rend ce mot par *subsidiens actus* (acte substantiel)."

Guthrie (Vol. I., p. 233) says: ". . . ('hypostases,' substantial acts, or) forms of existence . . ." with no note whatsoever, although "substantial act" is hardly an English phrase which means very much to a modern reader.

As one will see very readily most of these footnotes of Bouillet which have been incorporated into the body of Guthrie's text are the attributing of certain opinions to certain people or groups of people. Where Bouillet has an opinion about the authorities to whom they should be attributed, Guthrie shares that opinion. And in one instance, at least, where Bouillet is not sure, Guthrie shares the uncertainty. In this same third *Ennead*, Book IV., Chapter 3, Bouillet translates, "Qu'est donc notre démon? . . . (Est-ce la puissance qui agit principalement en nous comme le croient quelques-uns?)" And Guthrie parallels this with (Vol. I., p. 235), "What then is our guardian? . . . (Is it the power which acts principally in us as some people think?)" The bracket of course is not in the Greek, though in both French and the English, but why does not Guthrie know who the people are, who think an opinion which

he does not hesitate to put into the body of his text? Bouillet, unfortunately, does not give him a clue.

These instances in themselves, when one sees them repeated on one page after another, force one to the conclusion to which the writer has been forced. But there are still other types of passage which show Guthrie's reliance on Bouillet perhaps more convincingly.

It is well known how compact Greek is and how a translation must often expand into a phrase what is only a word or two in the original. This, of course, occurs in all translation, from no matter what language. But when two translators use exactly the same expressions as expansions of a few words in Greek, one need not hesitate to see in the resemblance something which is not a mere coincidence.

(g) COMPARISON OF TEXTS OF BOUILLET, GUTHRIE, AND THE GREEK ORIGINAL WHERE THE TRANSLATIONS SHOW EXPANSIONS OF EXPRESSIONS AND INSERTIONS OF NEW EXPRESSIONS

1. *Ennead*, VI., iv, 6.

Bouillet (Vol. III., p. 317) : "Pourquoi (si l'Ame universelle possède la grandeur que nous lui attribuons) ne s'approche-t-elle pas d'un autre corps (que de celui qu'elle anime, c'est-à-dire d'un corps particulier.) ?"

Guthrie (Vol. II., p. 294) : "Why (if the universal Soul possess the magnitude here attributed to her) does she not approach some other body (than that which she animates; that is, some individual body) ?"

Greek (Creuzer-Duebner text) : *Τί οὖν οὐκ ἐπ' ἄλλο σῶμα ἔρχεται;*

2. *Ennead*, IV., ix, 5.

Bouillet (Vol. II., p. 502) : "Ces vérités excitent notre incrédulité, parce qu'ici-bas notre raison est faible et qu'elle est obscurcie par le corps. Dans le monde intelligible, au contraire, toutes les vérités sont claires et chacune en particulier est évidente."

Guthrie (Vol. I., p. 146) : "These truths excite our incredulity, because here below our reason is weak, and it is confused by the body. In the intelligible world, however, all the verities are clear, and each is evident, by itself."

Greek (Creuzer-Duebner text) : *Ἀλλὰ ταῦτα διὰ τὴν ἡμετέραν ἀσθένειαν ἀπιστεῖται, καὶ διὰ τὸ σῶμα ἐπισκοτεῖται· ἐκεῖ δὲ φανὰ πάντα, καὶ ἔκαστον.*

To how many people would it occur to translate *ταῦτα* by "these truths" when it says "these things"—which, by the way, is Dr. Fuller's translation? To whom would it seem natural, at first blush,

to translate τὴν ἡμετέραν ἀσθένειαν "the weakness of our reason," when all Plotinus says is, "our want of strength," "our feebleness"? To whom would the inevitable translation of ἀπιστεῖται seem to be "excite our incredulity," when the Greek means primitively "to be distrusted"? How does Guthrie get "all these verities" out of πάντα without inspiration, and "each is evident by itself" out of a mere ἑκαστον, when all he had before him was, "But in the intelligible world (if you wish, for ἐκεῖ) each and everything is clear"?

But in all fairness to Dr. Guthrie there is one book in his four volumes, one out of fifty-four, which one can not say positively was translated from Bouillet's French. In order to show what the writer has considered fair evidence of independence on his part, let us give a short passage comparing Bouillet and Guthrie in this book.

(h) COMPARISON OF TEXTS FROM GUTHRIE AND BOUILLET WHERE THERE SEEMS TO HAVE BEEN NO DIRECT RELATION

Ennead, I., ii, 1.

Bouillet (Vol. I., p. 51): "Puisque le mal règne ici-bas et domine inévitablement en ce monde, et puisque l'âme veut fuir le mal, il faut fuir d'ici-bas. Mais quel en est le moyen? C'est, dit Platon, de nous rendre semblables à Dieu. Or nous y réussirons en nous formant à la justice, à la sainteté, à la sagesse, et en général à la vertu."

Guthrie (Vol. I., p. 256): "Man must flee from (this world) here below (for two reasons): because it is the nature of the soul to flee from evil, and because inevitable evil prevails and dominates this world here below. What is this flight (and how can we accomplish it)? (Plato) tells us it consists in "being assimilated to divinity." This then can be accomplished by judiciously conforming to justice, and holiness; in short, by virtue."

If this is our standard of independence, no one can maintain, against our final judgment, that we have been too severe in attributing a lack of independence to the other passages which we have cited herein. We are willing to admit that this one book may be Guthrie's own translation, simply because there are a number of passages as dissimilar in structure, if not always in wording, to their equivalent in Bouillet as the above.

But when one passes from the first chapter of the book to the second, one notices the old streak showing up again.

Bouillet (*Ib.*, p. 54): "Examinons d'abord les vertus par lesquelles nous devenons semblables à Dieu, et cherchons quel genre d'identité il y a entre l'image qui dans notre âme constitue la vertu

et le principe qui dans l'Intelligence suprême est l'archétype de la vertu sans être la vertu. Il y a deux espèces de ressemblance: l'une exige l'identité de nature entre les choses qui sont semblables entre elles, comme le sont celles qui procèdent d'un même principe; *etc., etc.*"

Guthrie (*Ib.*, p. 258 f.): "Let us first examine the virtues by which we are assimilated to the divinity, and let us study the identity between our soul-image which constitutes virtue, and the supreme Intelligence's principle which, without being virtue, is its archetype. There are two kinds of resemblance: the first entails such identity of nature as exists when both similar things proceed from a same principle; *etc., etc.*"

Yet, as we have said, we are willing to grant that this one book may have been translated in fair independence from Bouillet's text. But for the rest of Dr. Guthrie's translation, as far as we have examined it, and we have gone through it almost word for word, there is no passage which does not bear every mark of having been made not merely with the guidance of Bouillet's twenty years of toil, but with the calm and deliberate lifting of every illuminating phrase, every thoughtful and painstaking expression, every emendation and suggestion of emendation which served his purpose. And whereas Bouillet, with that true humility of the real scholar, pays every tribute even to so slight an aid as Thomas Taylor's, Dr. Guthrie makes little mention of any other work on Plotinus except that of Drews, and then only to find fault with it.

In the first three volumes of this translation there are about five or six references to Bouillet's work in the footnotes, which indicate that the author was acquainted with the French original. In the fourth volume his knowledge of Bouillet is more openly admitted, for (p. 1214) he reproduces in a table the numbering of Bouillet's edition of Prophyry's *Theory of the Intelligibles*. He says in a note that he follows the numbering of Bouillet "because the other orders differ anyway, and because this is the one that Porphyry introduced into the works of Plotinos." But it is noticeable that Bouillet himself translates this work, and again Guthrie follows him almost as closely as he does in the *Enneads*.

Of the value of the *Plotinic Studies*, as Dr. Guthrie calls them, we shall not speak here, since our sole interest has been to invite the attention of the philosophical reading public to the genesis of the translation itself. No criticism is here made of Dr. Guthrie because he has translated from the French instead of from the Greek; he had a perfectly good right to do so if he so chose and the result would have been worth having. But to have done so and then to have ad-

vertised it as the first English translation, with no acknowledgment, is too much for honest scholars to stomach.

The first real translation of the *Enneads* into English is yet to be made.

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JOURNALS AND NEW BOOKS

REVUE DE METAPHYSIQUE ET DE MORALE. November-December, 1919. *La volonté, la liberté, et la certitude d'après Renouvier* (pp. 685-704) (*A suivre*): O. HAMELIN.—"Volition is that characteristic of certain phenomena of consciousness, which makes them seem capable of not having appeared, though all conditions had remained the same." Thus volition is by definition free. Using this criterion, Renouvier denies volitional character to all physical movements, and to all conscious states which seem to arise spontaneously, like hallucinations and dreams. Only those states of consciousness which are characterized by effort, and which seem motivated or reflective, can be called volitional and free. H. Hamelin criticizes narrowing the meaning of the term volitional to embrace so limited a class of mental phenomena. *Les derniers progrès de la physique* (pp. 705-738): L. WEBER.—The following subjects are discussed: (1) the theory of relativity, (2) the theory of quanta, (3) spectrum analysis of X-rays and the light which it throws on crystal structure, (4) the re-interpretation of the Table of Elements on the basis of research into radioactivity. Both the relativity and the quanta theories are far from being demonstrated, but the evidence for each is drawn from many different branches of physics, and gives eloquent testimony to the ideal unity of the science. Both theories, moreover, suggest a description of the world, which departs still more radically than the old atomism from naïve empirical views. A bibliography supplements the account. *La psychologie de Ribot et la pensée contemporaine* (pp. 739-763): R. LENOIR.—Ribot's work is examined as a reaction against the traditional ideational psychology. "The identification of consciousness with that immediate feeling which we have of ourselves, a study of sensibility which is not accompanied by a like study of intelligence, can contribute to breaking English associationalism by introducing a dynamic point of view, and can clarify the psychological study of movements. But it is at the price of some confusion in general psychology. And it seems that Ribot undoes little by little the work of Auguste Comte

and Renouvier." *Enseignement. De la formation des maîtres primaires* (pp. 765-769): A. MEILLET. - M. Meillet disagrees with those who believe that the natural sciences are of primary importance in providing that kind of culture which is most valuable to the art of the elementary teacher. He insists first upon an understanding of one's own language, its logic and its possibilities of expression. The study of man's history is of next importance in the education of elementary teachers, even though experience shows that history can not be taught with good results in primary schools. *Questions Pratiques. La controverse nationalitaire* (pp. 771-803): TH. RUYSSSEN. - There are two opposing theories of nationality; one regards the facts of geographical location, of race, of language, and of culture as the proper criteria of nationality; the other holds that the will of the people as expressed in plebescites is the only satisfactory test. The first theory can be used in practise to sanction autocratic imperialism; the plebescite principle, if thoroughly applied, would involve "a constant surrender of sovereignty on the part of the existing Nation-state to the demands of groups which declared themselves to be nations." Problems of conflicting nationality can be solved only by changes in the present manner of exercising state sovereignty. Groups of different culture within the state should be given as much autonomy as possible, and their development encouraged. "Autonomy within federation is the formula proposed to statesmen responsible for deciding the political status of nationalities still in conflict." *Nécrologie. Georges Siméon* (1888-1919) (pp. 805-807). - Siméon was a young philosopher of promise, who had written several essays on the sentiment of patriotism. He died in June, 1919, as a result of gas-poisoning sustained during the war. *Tables des Matières* (pp. 809-811). - Articles appearing in the *Revue* during the year 1919 are listed both in a *Table des Auteurs* and in a *Table des Articles*.

Ross, Edward Alsworth. *The Principles of Sociology*. New York: The Century Co. 1920. Pp. xviii + 703.

Watt, Henry J. *The Foundations of Music*. Cambridge, England: University Press. 1919. New York: G. P. Putnam's Sons. Pp. xiii + 239. 18s.

Merz, John Theodore. *A Fragment on the Human Mind*. New York: Charles Scribner's Sons. 1920. Pp. xiv + 309. \$4.50.

NOTES AND NEWS

PROFESSOR JOHN DEWEY has received an additional year's leave of absence from Columbia University for the academic year 1919-1920. The authorities at the University of Peking have requested him to remain, and he feels that this extra year will enable him to return to America with a more thorough understanding of Chinese thought and civilization. For the past year he has been lecturing at the Government University of Peking, and although there have been several serious student strikes there against unpopular governmental policies, the students have usually made an exception in the case of his courses and so prevented any interruption in his work. He has been giving three courses this year, the "Philosophy of Education," "History of Greek Philosophy," and "Logic." Next year he has been asked to give, in addition to these courses, one on the "Interpretation of the History of Philosophy," which can be used as a standard basis for the study of the subject. This fact, and others mentioned in his letters, indicate that there is in China an increasing interest in western philosophy. Professor Dewey writes in a recent letter that one of the largest publishing houses in China has just completed arrangements for the publication of extensive translations of important works, especially in the field of philosophy.

THE delegation of the American Philosophical Association to the Congress of Philosophy at Oxford next September has just been announced, and is as follows: Professor William P. Montague, of Columbia University, (Chairman); Professor John E. Boodin, of Carlton College, and Professor R. F. Alfred Hoernlé, of Harvard University.

THE Butler Medal in gold, which is awarded every five years by Columbia University "for the most distinguished contribution made during the preceding five-year period anywhere in the world to philosophy or to educational theory, practise or administration" was awarded this year to Benedetto Croce in recognition of the completion of his *Filosofia dello Spirito* by the publication in 1917 of the fourth volume entitled *Teoria e Storia della Storiografia*.

THE Butler Medal in silver or bronze, which is awarded annually to "the graduate of Columbia University in any of its parts who has during the year preceding shown the most competence in philosophy or in educational theory, practise, or administration" was awarded in silver to Henry Rutgers Marshall in recognition of the publication in 1919 of his volume entitled *Mind and Conduct*.

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PSYCHOLOGY AND SCIENTIFIC METHODS

PROFESSOR HENDERSON'S "FITNESS" AND THE LOCUS OF CONCEPTS

PROFESSOR L. J. HENDERSON'S two volumes, *The Fitness of the Environment*¹ and *The Order of Nature*,² along with several magazine articles, inaugurate a sort of revival of the old problem of teleology. After adducing certain empirical data, which seem to be both novel and important, he declares that these argue a relation between past phenomena and present that is not mechanical, but is, in some sort or other, teleological. Professor Henderson refrains, being a "man of science," from spinning metaphysical cobwebs around this teleology. Indeed he goes only as far as he feels that the evidence forces him to go, and then, finding himself "face to face with the problem of design," he takes "refuge in the vaguest possible term which can be employed. That term is teleology."³ By "vaguest" he means of course the least fraught with unwarranted hypothesis and connotation. Partly by reason of this seemingly reticence, the brief metaphysical argument which leads him from the facts to teleology constitutes a challenge which the convinced mechanist can hardly afford to ignore.

Professor Henderson has stated this argument very compactly,⁴ and in one place has compressed it to a single passage. "The process of evolution consists in the increase of diversity of systems and their activities, in the multiplication of physical occurrences, or briefly in the production of much from little. Other things being equal, there is maximum freedom for such evolution on account of a certain unique arrangement of unique properties of matter. A change in any one of these properties would greatly diminish the freedom. The chance that this unique ensemble of properties should occur by accident is almost infinitely small. . . . Therefore there is a causal connection between the properties of the elements and the

¹ Macmillan, N. Y., 1913.

² Harvard University Press, Cambridge, Mass., 1917.

³ "The Teleology of Inorganic Nature," *Phil. Rev.*, 1916, XXV., p. 278.

⁴ *The Fitness of the Environment*, pp. 249-273; *Phil. Rev.*, 1916, XXV., pp. 265-281; this JOURNAL, 1916, XIII., pp. 326-27.

freedom of evolution. But the properties of the universal elements antedate or are logically prior to those restricted aspects of evolution with which we are concerned. Hence we are obliged to regard the properties as in some intelligible sense a preparation for the process of planetary evolution. For we can not imagine an interaction between the properties of hydrogen, carbon and oxygen and any process of planetary evolution or any similar process by which the properties of the elements should have been modified throughout the universe. Therefore the properties of the elements must for the present be regarded as possessing a teleological character."⁵

If I recall aright, Professor R. B. Perry has somewhere expressed the view that this is nothing more than the ancient argument from design: and such was for a time my own belief. Yet this verdict seems scarcely just to the Professor Henderson, who writes, "Science has finally put the old teleology to death;"⁶ and, "Experience seems to show that the only kind of hypothesis which can find conclusive scientific support, or sound basis in the phenomena of matter and energy, is a mechanistic hypothesis;"⁷ and again, of one of the most notorious strongholds of teleology, "vitalism has perhaps not had a positive success in three centuries."⁸ Clearly to Professor Henderson's mind, at least, his argument is something very different from anything to be found in Paley or the *Bridgewater Treatises*.

A more pregnant criticism is one that Professor H. C. Brown has made in his review of *The Order of Nature*.⁹ "The treatment of concepts in reaching this analysis, however," says Professor Brown, referring to Professor Henderson's analysis of the evidence, "seems to the reviewer to be a curiously tangled mixture of idealism and scholastic realism." In other words the author, as indeed he himself admits, has overstepped "the boundaries of natural science" and adventured "upon the foreign field of metaphysics;"¹⁰ and in so doing has, as he would probably not admit, unsuspectingly introduced a teleology that lay not in his empirical data but was insidiously contained in his procedure and his instruments of thought—his more philosophical concepts.

That this criticism is a sound one I am quite convinced. And indeed this new teleology seems to be an especially interesting illustration of a human frailty which I wish might receive the more

⁵ *Phil. Rev.*, 1916, XXV., pp. 271-72.

⁶ *The Fitness of the Environment*, p. 311.

⁷ *Ibid.*, p. 285.

⁸ *Ibid.*, pp. 284-85.

⁹ This JOURNAL, 1917, XIV., pp. 557-59.

¹⁰ *Fitness*, pp. 307 and 312.

explicit attention of philosophers. Briefly, this infirmity can be called the misapplication of concepts, but as a topic of philosophical study it might well be brought under a more general caption—"the locus of concepts." There is, namely, for any concept which the mind entertains a definite locus, or range of applicability: within its locus the concept may be a useful instrument of thought, but if one attempts to apply it outside of its proper range it becomes at once misleading or meaningless. That is, in the latter event, the "concept" ceases to be a concept at all; it vanishes quite, and one has left in one's mind or on one's tablet nothing but the bare word, a verbal image merely, or wasted ink. For a gross illustration, it means nothing to speak of "love" among the inorganic elements. And in general the miscarriage of truth is perhaps not so frequently error, in the familiar sense of an assertion which is significant but untrue, as it is verbiage. This is the most insidious hazard of thought. It were better if only the worthless verbal coin would vanish when the conceptual meaning which is its value has been lost.

Now it is, as I think, because Professor Henderson has misapprehended the locus of some few concepts that he finds himself brought, though with obvious reluctance, to his very temperate yet earnest espousal of the cause of teleology. It is therefore for two purposes that I propose the following examination of his argument: firstly, in order to vindicate, if I may so say, the cause of unqualified mechanism; and secondly, in order to illustrate very briefly the locus of concepts.

In the argument of Professor Henderson as quoted above, the concepts whose loci need investigation are—uniqueness, maximum, chance, and preparation. I shall take up these, with some nearly related variants that occur elsewhere in his writings; and in addition, the notion of "changeless" as applied by Professor Henderson to the properties of matter.

1. *Uniqueness*.—We must now look at the argument more closely. All physical and chemical (including vital) processes are properly to be considered as changes of "phases" and of "systems" (Willard Gibbs). Evolution itself depends on the plenitude of such changes. In these changes some of the properties of substances (*e. g.*, the high solvent capacity of water) play an eminent rôle: they figure largely as the causes, or the requisite conditions, of life and of organic evolution. Now Professor Henderson has surveyed the elements and their compounds and *selected out* for further consideration those whose properties do play this important part in life and evolution,¹¹ that is, those which are fit for this purpose and "fitted" to this end. He has thus slipped in the teleology, at the

¹¹ *Fitness*, pp. 248-253.

very outset, which he later brings forth and presents for our respectful admiration. And it is scarcely to be wondered at that the substances so selected appear in the sequel as "uniquely" and designedly "fitted" to bear the burden of both life and evolution.

He, however, does not admit this because he finds that these teleological properties (for I insist that they have already become "teleological" by his own purposive selection) are the properties of very few elements,¹² and these among the most abundant in our universe. That is, life and organic evolution depend mainly on carbon, hydrogen, and oxygen, and these exist in plenty.

To this of course, so far as it bears on teleology, the mechanist replies merely: Well, what of it? Must your teleological properties be distributed with mathematical impartiality among the eighty odd elements? Would you have been less intrigued if your big Three had happened to be a big Four (as it would have been if you had not chosen to exclude nitrogen), or indeed a big Fifty-six? Certainly no mechanist, if he keeps his head, will ever feel concerned over any amount of teleology which Professor Henderson may conjure out of the bag which we have so plainly seen him stuff to bursting when he first stepped on to the stage.

But the mechanist may not keep his head. He may be beguiled and deluded when Professor Henderson so solemnly tells him that these are, not teleological properties, but "unique" properties. Now I suppose the locus of the notion "unique" to be this: (1) a class of objects, (2) which are not all alike. Then, that a single object or group of objects which is (otherwise than "numerically") unlike any other object or group of objects contained in the class may be said to be "unique" in that particular universe of discourse (the given class) and (3) in respect to that property in which it is unlike the other members. Since Professor Henderson is dealing with concrete elements and their concrete properties, every last one of which is in fact unique, he is no danger of applying the term outside of its proper locus. And I should like to know what ele-

¹² The convergence of teleological properties is, alas, not without flaw. For instance, mercury has a most enviable and "unique" surface tension which if it had been possessed by water, would have covered our planet with a flora and fauna so luxuriant that Mr. H. G. Wells's gigantesque imaginings (*The Food of the Gods*) would be as nothing. The surface tension of mercury is 436, and that of water but 75 (*Fitness*, p. 126): a strange anti-teleology. And little boron, apparently by no right at all, flaunts a heat of combustion that is second only to that of hydrogen and actually superior to that of carbon (pp. 245-46). Silicon is both fit and unfit; and so is the compound, ammonia (p. 263). Nitrogen is a good element but not good enough to be numbered among the "fittest." And there are other devastating evidences of anti-teleology. If the three superior elements prove that teleology is the order of nature, why do some eighty inferior elements exist at all?

ment or property, or a *fortiori* what group of elements or properties he would care to name as not being unique. Nor is the case any better, as it happens, when he comes to what he calls the "abstract" and "changeless" properties of substances.¹³ Each of these is different from the others and is therefore unique. But if this concept is easy of application it is by the same token of very slight significance. Yet Professor Henderson reiterates the word "unique" with an unction, so to speak, as if it reinforced or advanced his argument.

And here we must leave for a moment the locus of concepts for the field of psychology. Why, for Professor Henderson, has the colorless predicate "unique" become in some sense encomiastic and salutary to his purpose? Simply, I think, because his selected elements and properties are "fit" and important ones; that is why he selected them; and he likes them; and therefore he is pleased and not a little impressed on discovering that they are unique. It is by the same emotional mechanism that every furniture dealer has the "most unique" specimen of Old Colonial, and every mother the "best" baby on earth (the superlative case being seized upon by the vulgar under the same tension of feeling). The adjective "phenomenal," through the same mechanism, has been so abused as to be, in all save scientific contexts, worthless. Few of us are sufficiently *l'homme intellectuel* not to note with elation that our own geese are "unique" as compared to other persons' swans.

The term "unique" must be expunged from Professor Henderson's argument. It is purely rhetorical and has no legitimate function to fulfil there: and, like other forms of unremoved refuse, is likely to provide breeding points for germs of error. Thus the statement, "that the properties of hydrogen, carbon, and oxygen make up a unique ensemble of properties, each one of which is itself unique,"¹⁴ when purged of emotional warmth, becomes a statement that is less likely to overawe and to mislead; *viz.*, that the properties of hydrogen, carbon, and oxygen make up an ensemble of properties, each one of which is. Any mechanist will assent to this.

II.

2. *Maxima and Minima*.—"Each of these properties [of the three elements] is almost or quite unique, either because it has a maximum or a minimum value [the minimal value of some properties determines of course maximal "fitness"] or nearly so, among

¹³ I am aware of a certain error that Professor Henderson could make in self-defense at this point by appealing to his scholastic realism. But rather than complicate the argument here, I shall wait to see if he makes it.

¹⁴ *Phil. Rev.*, 1916, XXV., p. 268.

all known substances, or because it involves a unique relationship or an anomaly."¹⁵ The terms "maximum" and "minimum" are here used correctly, and indeed their proper locus is all but unmistakable. This is the end terms of a series of objects which are serially ordered according to the magnitudes of some one property or quality possessed by all the objects.

We should notice here that the fact that the maximal values of Professor Henderson's teleological properties are not distributed at random among the eighty odd elements, but do accumulate (as "modes") on carbon, hydrogen, and oxygen, is one that may well interest us. He calls this fact the "pattern;" and I shall revert to the pattern later. These three modes are interesting, of course, just as any pronounced empirical modes are interesting. But if he supposes that they are "teleologically" interesting, as he does, this is only because the properties so plotted are the "teleological," the "fit," properties which he originally selected.

Although the loci of "maximum" and "minimum" are all but unmistakable, yet even here human ingenuity can find out the way of error. In speaking of the pattern Professor Henderson says: "This order has for cosmic and organic evolution extremely important results—maximum stability of physico-chemical conditions and maximum complexity in the physico-chemical make-up of the surface of our planet; further, the possibility of maximum number, variety, complexity, durability and activity of physico-chemical systems in such an environment. . . . No other environment . . . could so highly favor. . . . This environment is indeed the *fittest*."¹⁶ In other words because three very common elements possess many properties each of which is favorable to the formation of diverse systems (while some eighty other elements do not possess these advantages), Professor Henderson concludes that just this concentrated distribution of these properties is the most favorable to their maximal cooperation in the evolution of the universe. This is a leap in the dark such as Professor Henderson may expect of any metaphysician, but which no metaphysician would expect of Professor Henderson. For the most elementary experience teaches that when properties are combined the strangest things happen to their maxima and minima in the combined function. Properties are not in general simply additive; and still less so are maxima and minima. But if they were, a fitter universe would of course be one in which

¹⁵ *Phil. Rev.*, 1916, XXV., p. 267. The first use of "unique" in this passage is of course fallacious; it unwarrantably *restricts* the locus by implying that only the two end members of a series of different objects are unique; or again that only an "anomaly" is unique. The second use is correct but idle. The vicious effect of the term is readily perceived.

¹⁶ *Phil. Rev.*, 1916, XXV., p. 269.

all of the participating elements possessed what are at present the maximal fitnesses.

I am not sure that the problem thus raised is one that can be even stated in rigorous scientific form. But the difficulties besetting Professor Henderson's path at this point will be sufficiently illustrated by a single consideration. It is a familiar fact in chemistry that the more complex substances are in general the less stable. And certainly the "complexity" and the "activity" of physico-chemical systems are in some measure at least (if not *diametrically*) opposed to their "durability." Now apart from the two minor questions: what distribution of component properties each in a general way maximally favorable to the activity of systems will be maximally favorable to the activity of the system in which they are combined, and the parallel question respecting durability; there is the further and more serious question, what degree and distribution of activity and what degree and distribution of durability will make for the maximum success of the evolutionary process. Heat favors chemical activity, and water, excellent solvent, favors chemical activity, but the system which tried to combine the greatest amount of heat with the greatest amount of water would not be the "fittest" for either activity or evolution. For there is a degree of heat that destroys water, and much else. These questions, if they are soluble at all, are staggeringly intricate. I do not discover that Professor Henderson has considered them.

In terms, once more, of the locus of "maximum" and "minimum," the objection which I raise is that the maxima and minima of component functions can not be simply added to give the maxima and minima of the combined function.

3. *Chance, Probability, and Possibility.*—The notion of "possibility" has been implicitly involved in our preceding argument. For the question whether a different distribution of their properties would more conduce to "cosmic and organic evolution" means "different from the actual" in both cases. It is equivalent to asking whether other arrangements could be a better "preparation for the evolutionary process." If not, the actual arrangement is the best possible. And in fact a comparison with other "possibilities" is everywhere involved in Professor Henderson's argument. This is often explicitly stated, as in the following sentence. "Given matter, energy, and the resulting necessity that life shall be a mechanism, the conclusion follows that the atmosphere of solid bodies does actually provide the best of all possible environments for life."¹⁷

Now the loci of those concepts which involve any species of

¹⁷ *Fitness*, p. 273.

potentiality are perhaps the most difficult and most frequently misunderstood of all. And a complete treatment of them would involve the theory of cognition itself, for there is no "potentiality" except in a situation where a cognizer is making some sort of forecast. But this would go beyond our present compass, and for the case in hand a briefer treatment will suffice.

In Professor Henderson's use of "possibility" he contemplates, or essays to contemplate, all of the "possible," which is to say the thinkable, permutations of arrangement among the actually observed properties of elements and their compounds. This is a free and gratuitous act of the imagination, save only that the properties thus imaginatively permuted are, severally, actual properties. It is comparable to a child conceiving of a mountain of sweets—the biggest mountain, the sweetest sweets, and the least conducive to stomach-ache. But such imaginative permutations of entities, although each entity be a real, notoriously leads one to more impossibles than possibles. And a free sweep of the imagination is not the true locus of the concept "possibility."

It is, however, from this that the concept has evolved. After the pictorial imagination has run its course the criterion needed, in order to separate the possibles from the impossibles, is this—which, now, of these alleged "possibles" can be done; which can be concretely realized? With this a notion of causation and of the manipulation, or else of the spontaneous cooperation, of actual causes to produce concretely one or more out of the many imagined effects, enters into the locus. If it is the spontaneous cooperation of causes producing this end, which we envisage, we here branch off into the nearby field of "chance" and "probability." If it is the manipulation, by ourselves or others, then it next appears that one does not know, *sensu strictiori*, which of the alleged possibles can be realized until one has realized it. But with that the "possible" becomes an actual. Clearly the locus of "possibility" stops somewhere short of this.

It does, but at a point which is not defined by logical, but by merely psychological, considerations. Thus a human element of caprice, conjecture, belief or faith—more or less accepted by the crowd—inheres in the notion of "possibility." It is irremediably a psychological, and more or less a social, concept. Its locus is not sharply defined because the degree of plausibility or expectation required to make an effect "possible" is fixed by no convention. It increases with the advance and diffusion of knowledge; it varies from one social group to another.¹⁸ For some persons conversation

¹⁸ In studying the locus of concepts one must not forget that they are undergoing evolution. As compared with some concepts, that of "possibility" is in a state of "active mutation."

with departed spirits is "possible;" for others a forecast of the weather or the commission of a voluntary act is "impossible." For these, and several other, reasons the concept of "possibility" has no proper place in science.¹⁹ It is, however, often enough used by scientists, but generally only after some consideration at least of real causes that have in other circumstances produced the imagined effects, or effects very similar; of the accessibility of the causes to actual manipulation; *etc., etc.* Of such cautions I discover no trace in Professor Henderson's argument.²⁰ The "possible," yet so much less "fit" or desirable, other permutations of the properties of elements and their compounds are the free creations of his imaginative faculty. And when one is considering such fundamental matters as the properties of substances one knows too little of their antecedent causes to be able to speak circumspectly about what were "possible." This fact applies even more significantly in connection with Professor Henderson's use of "chance" and "probability."

This unique ensemble, he says, can not have come about by chance: "the possibility is negligible that conditions equally favorable to the production of diversity in the course of evolution should arise without cause."²¹ And again, "There is, in truth, not one chance in countless millions of millions that the many unique properties of carbon, hydrogen, and oxygen, and especially of their stable compounds water and carbonic acid, . . . should simultaneously occur in the three elements otherwise than through the operation of a natural law which somehow connects them together."²² The upshot of which is, "that the connection between the properties of the three elements and the evolutionary process is teleological and non-mechanical."²³

In this application of "chance" Professor Henderson makes two errors either of which would be fatal. The least situation in which chance can be spoken of is: two (or more) causal sequences, and an observing computing organism; further, the causal sequences

¹⁹ It may be that few persons will agree with this assertion. But I should be willing to go still further, and assert that no one of the potentiality concepts finds any proper employment in science: that the work of science is but imperfectly accomplished until all scientific propositions have been reduced to the indicative mood. All equations *are*, of course, in this mood.

²⁰ An ambitious student would find in Professor Henderson's writings capital material for a doctoral thesis on the concept of possibility; for which he might select the captivating title, "What would the Universe be like if it were other than it is?"

²¹ *Phil. Rev.*, 1916, XXV., p. 271. The mechanist believes that nothing arises "without cause."

²² *Fitness*, p. 276.

²³ *Phil. Rev.*, *loc. cit.*, p. 278. Throughout this stage of his argument Professor Henderson uses the notions of chance and probability in a way that I am bound to call reckless.

are relatively independent, but they are about to interact, or meet; further, the observer knows this but owing to the relative apartness of the causes he is able to deduce or predict only very imperfectly some features of the expected interaction: these unpredictable features he declares to be "subject to chance." Nothing less than this is the locus of that concept, and essential to its legitimate application. In the old illustration of the die, the shape and homogeneous composition of the die, its relation to gravity, and the quality *etc.* of the table top may be taken as one causal sequence; the original (and unknown) lie of the die in the box derives from another causal sequence; the movements of the shaker's arm, and the relation of this to the table top, are a third causal sequence. In the die when it finally comes to rest on the table these three sequences have met. The number that comes "up" was unpredictable, and the fact that *it* comes up is ascribed to "chance" by the person who was interested but could predict only that *some* number would lie uppermost. The instant that the causal sequences have met and the die rests on the table, the locus for chance has expired. And obviously, "chance" is another psychological concept—it involves in its very locus a knower.

Now, first, when Professor Henderson speaks of "countless millions of millions" of chances, he is either (1) thinking of a many-faceted die (or some comparable mechanism) with all the properties of all the elements and their compounds inscribed each on a facet, no facet remaining blank; and this die is shaken countless millions of millions of times. And he has no right to such an assumption. Or (2) he is not thinking of a die, is making his permutations mentally (by the mathematician's handy method of syncopation),²⁴ and again he has not got the locus of chance—those real but unpredictable causal sequences that are to meet. Both objections reduce to the fact mentioned above, *i. e.*, that we know too little of the causes that lie behind the properties of matter to envisage even the situation, the locus of chance.

Secondly, Professor Henderson argues that after one actual arrangement of the properties has been selected by nature from the countless millions of millions of arrangements which he alleges to be "possible," the chance of *this* arrangement coming out was very, very small. Is Professor Henderson unaware that after the event there is no "chance"? Or, in other words, that the "chance" of any event that has actually taken place is exactly equal to unity?

Professor Henderson, in the quality of "man of science" and doubtless rightly enough, heartily despises the "philosopher," yet

²⁴ The same syncopation that leads to the "completed infinite," and other paradoxes.

I think, if he will consider a bit analytically the current scientific notions of chance and probability, that he will find some neat little antinomies that may call to mind glass houses. One of these antinomies is that any event before it happens has a vanishingly small chance; while after it happens, it had always been certain to happen, had always had the probability one. Such pitfalls can be avoided only by observing very carefully what the true locus of chance is. And any one who does this will soon find that there is neither chance nor probability "in nature," and also, perhaps, that a theory which purports to enable us to cash in our ignorance, to predict where we can not foresee, needs some revision. Portions of the theory of probability are among the modern scientist's last remaining forms of magic.

III.

4. *Preparation*.—"Hence we are obliged to regard the properties as in some intelligible sense a preparation for the process of planetary evolution. . . . But we are ignorant of the existence of any cause except the mind which can thus produce results that are fully intelligible only in their relation to later events."²⁵ "In short, we are face to face with the problem of design." I take "refuge in the vaguest possible term which can be employed. That term is teleology."²⁶ In another place Professor Henderson refers to "teleology" as "the vaguest possible term which can be imagined, from which all implication of design or purpose has been completely eliminated."²⁷

Now "preparation" is of course inalienably a psychological concept: it presupposes a preparer who is looking ahead or, as indeed Professor Henderson perceives, a mind. But now this "preparation" he rechristens "teleology," and then lightly asserts that from "teleology" "all implication of design or purpose has been completely eliminated." I submit that this is a very pretty case of wresting a word from its locus, its meaning. Of course the word "teleology" has now become printer's ink.

But it was in 1917 that Professor Henderson took this step. In 1916 he wrote as follows: "Here it may be pointed out that biological organization consists in a teleological and non-mechanical relationship between mechanical things and processes. In both cases the relationship is rational and non-mechanical, the things related mechanical and non-rational. Or, in other words, the relation is an affair of the reflective judgment, the things related of the determinate judgment. It is the failure to understand this dis-

²⁵ *Phil. Rev.*, 1916, XXV., p. 271.

²⁶ *Ibid.*, p. 278.

²⁷ *The Order of Nature*, 1917, p. 204.

inction which is at the bottom of most misunderstandings concerning teleological problems in biology."²⁸ Now whether Professor Henderson intended it or not, this capitally states the locus of "teleology." The teleological relation is an affair of the reflective judgment, of Professor Henderson's reflective judgment. And if he, and others like-minded, cease to reflect in this vein, there is no teleology save the meaningless printed word scattered here and there through books. It is merely the human judgment that imputes to the pattern of the properties this "fitness," this "quality of preparation." The pattern is merely what it is.

"'Why,'" as Professor H. C. Brown has said, "taken teleologically, has meaning only in the responses of the conscious organism where ideas, as anticipations, become motives and determine them. It is not the universe, but only certain organisms that have a structure making such ideal anticipations possible."²⁹ And as Professor H. C. Warren has said; "In short, the arguments so far advanced for 'peculiar fitness' lead merely to the meaningless conclusion that the fitness of things is what it is. . . . If the action of a directing agency during the *course* of events is unsupported by evidence, there is no *a priori* ground for assuring [assuming?] such a directive agency at the *beginning* of events."³⁰ And again, "while we may conclude, on the basis of empirical evidence, that 'history' in its widest sense shows a *trend*, our present scientific knowledge does not indicate that it manifests a *purpose*."³¹ No, the "purpose" is injected by the private "reflective judgment" which, in an exuberant moment, is sometimes led to marvel at the beautiful way in which events "prepare" for what is to come; or again, at the beautiful way in which they "fulfill the promise" of what has gone before. The correlative notions of preparation and fulfilment are both the work of the non-scientific imagination.

5. *Changelessness*.—"Nothing is more certain than that the properties of hydrogen, carbon, and oxygen are changeless throughout time and space. It is conceivable that the atoms may be formed and that they may decay. But while they exist they are uniform."³² "Accordingly, the properties of the elements are to be regarded as fully determined and perfectly changeless in time. This we may take as a postulate. But the abstract characteristics of systems are no less fully determined and absolutely changeless in time. This is a second postulate."³³ The connection between

²⁸ *Phil. Rev.*, 1916, XXV., pp. 278-79.

²⁹ This JOURNAL, 1917, XIV., pp. 558-59.

³⁰ This JOURNAL, 1916, XIII., pp. 66-67.

³¹ *Ibid.*, p. 70.

³² *Phil. Rev.*, 1916, XXV., p. 275.

³³ *Ibid.*, p. 277. See also *Fitness*, p. 280, note 1.

the pattern and evolution "because it is merely a relationship and in no sense a mechanical connection, because it is unmodified by the evolutionary process and changeless in time, is to be described as teleological."³⁴ Now if the elements have evolved and if not still evolving still may decay, as Professor Henderson admits³⁵ may be the case, how shall their "properties" have been, and still be, "absolutely changeless"? Doubtless because they are "rational" and abstract entities: as may be inferred from the quotations just given, and from the following: "For these laws [the laws of nature] are exclusively rational; they are the product of the human reason, and are not conceived by science to have objective existence in nature. This is also clearly true of the relation between the properties of the elements and the course of evolution."³⁶ The laws of nature, then, the properties of matter and their relation to the course of evolution are all, as Professor Brown has intimated,³⁷ scholastic reals. They have the same metaphysical status as Platonic ideas.

Now I trust that it is not an early book of mine called *The Concept of Consciousness* that has so grievously misled Professor Henderson. Probably not, for if he had read that book he would have seen at once what an absurd hocus-pocus I there conjured up³⁸ because I did not at that time know the true locus of the "timeless and changeless" entities. And he would not have made a like mistake.

Adequately to discuss the locus of these entities in a world where "everything flows," and thus to deal fundamentally with Professor Henderson's error in supposing that abstract and changeless properties of matter have anything to do with the course of evolution, would involve us in the whole theory of knowledge and especially in a discussion of the locus of "unreality." But happily Professor Henderson's own words provide a readier *reductio ad absurdum*. For is it not self-evident that if the real atoms and molecules of the universe are in active evolution, then their real properties are actively changing. Whatever, then, abstract and changeless "properties" may be, or wherever they may be, they are not concerned in this process of evolution and decay. They can not influence it in any way. In Professor Henderson's own words, the

³⁴ *Ibid.*, p. 279.

³⁵ *Ibid.*, pp. 265, 275: *Fitness*, p. 303.

³⁶ *Ibid.*, p. 276.

³⁷ This JOURNAL, 1917, XIV., p. 558.

³⁸ Especially in the chapter on "The Neutral Mosaic." To Dr. H. M. Kallen and Professor A. W. Moore I am indebted for some very just and excellent criticisms of the mistakes that I there committed. I intend to take up these criticisms in detail at another time.

laws of nature "are exclusively rational; they are the product of the human reason, and *are not conceived by science to have objective existence in nature. This is also clearly true of the relation between the properties of the elements and the course of evolution*"³⁹ (italics are mine). If these things have no objective existence in nature, then also teleology has no objective existence in nature. Their locus is in the human mind, and there alone do they operate as causes. Such abstract entities and relations can make Professor Henderson write *The Fitness of the Environment* (or me, a similarly mistaken book). This is all that the mechanist wishes to prove.

CONCLUSION: THE PATTERN

Professor Henderson's work on "fitness" consists of two distinct parts. The one, an empirical study of the properties of the chemical elements and especially of hydrogen, carbon, oxygen and two of their stable compounds, brings out a series of facts which he has called the "pattern." The other part is an argument for teleology. And, although based on the pattern, it is a metaphysical argument. It employs among several philosophical concepts two or three of the most treacherous which are to be found in the apparatus of human thought. I have tried to show that several of these concepts have been used by Professor Henderson without a due regard to their true locus,⁴⁰ and that for this reason his argument for teleology is null and void. Indeed I see not one iota of value on the teleological side of Professor Henderson's contributions, nor do they, in my opinion, cast the faintest shadow on the path of the most unpromising mechanist.

With the other portion of these contributions, the empirical pattern, the case is very different.⁴¹ And I do not wish to leave the subject of "fitness" without further mention of the pattern.

The "pattern" means the pattern of distribution of the physical and chemical properties of the elements and their compounds. As we have seen, Professor Henderson, after an extended analysis, finds that hydrogen, oxygen, carbon, and their two compounds, water and carbonic acid, are the chief bearers of the process of evolution.⁴²

³⁹ *Phil. Rev.*, 1916, XXV., p. 276.

⁴⁰ In the present paper I have not begun to exhaust the metaphysical tangles in which Professor Henderson has involved himself in the several versions of his teleological argument.

⁴¹ Apart from the "pattern," moreover, the volume on *The Order of Nature* has an importance of its own.

⁴² In his judicious review of *The Fitness of the Environment*, Professor S. O. Mast says: "It is to be regretted that other factors were not included in this thorough study, especially nitrogen and its compounds." He also remarks that "a thorough and altogether excellent treatment of the same general subject

Now this is interesting; and especially if, instead of asking what were the "chances" of this happening so, we ask what specific processes have led to this result.⁴³ In other words, human interest and investigation may well be directed toward these elements.

In other fields of inquiry we have come to suspect that any "pattern," anything other than homogeneous mixture and random distribution, is itself the product of evolution. Indeed is this not, in a sense, a scientific maxim? And is this pattern of the properties, then, not a valuable empirical cue for further investigation? Professor Henderson says that "in accordance with the general method of science, we must assume that the origin of environmental fitness lies at least as far back as . . . the evolution of the elements, if they were ever evolved."⁴⁴ And it is conceivable "that at an early period the chief cosmic process was the evolution of the elements themselves."⁴⁵ "Biological science has not been able to escape the recognition of a natural formative tendency, which Darwin identified as the result of natural selection. And now it appears to be necessary to postulate a like tendency in the evolution of inorganic nature."⁴⁶ "Moreover," as Mr. W. C. D. Whetham has said, "from our present point of view, a common basis for matter [*i. e.*, the electron of Lorentz and Larmor] suggests or implies a common origin, and a process of development possibly intelligible to our minds. The idea of the evolution of matter becomes much more probable."⁴⁷

Furthermore, some of the reasons for "the coincidence of properties," as Professor Henderson himself shows,⁴⁸ are already clear; and they are simple enough.

Now from looking at the higher levels of evolutionary development one seems to perceive that any single step in evolution starts with a disordered field of independent objects (atoms, molecules, colloids, animals, men, nations) which impinge promiscuously on one another's spheres of influence: some of these random collisions result containing similar conclusions appeared in the *Bridgewater Treatises* approximately one hundred years ago" (*Biologisches Centralblatt*, 1914, XXXIV., p. 436). A study of the pattern is also to be found in the opening sections of Spencer's *Principles of Biology*. Professor Henderson's work amplifies and brings up to date such earlier studies.

⁴³ Professor Henderson has also asked this second question. In this respect there seem almost to be two Professor Hendersons; and I doubt that the reader will readily reconcile some of the passages about to be quoted with some of those that have been quoted previously.

⁴⁴ *Fitness*, p. 304.

⁴⁵ *Ibid.*, p. 303.

⁴⁶ *Ibid.*, p. 280.

⁴⁷ "The Evolution of Matter," in the Darwin Centenary volume, *Darwin and Modern Science*. Cambridge University Press, 1900, p. 569.

⁴⁸ *Fitness*, pp. 276-77; and elsewhere.

in two or more of the objects becoming attached to each other with a force that is more or less able to withstand further impacts from outside. Thus new and more complex units are formed, a higher "level;" and these, in turn, in no as yet ordered arrangement. But their degrees of stability are very diverse. Of the combinations thus formed some, in the same way, enter into still higher syntheses and so "evolve;" others seem merely to hold their own, but not further to "evolve;" while still others sooner or later break down again into their component parts. Such a picture of the evolutionary step seems to emerge if one studies the relations of atoms to molecules, of molecules to colloids, of individuals to social groups, of clans to nations.

Thus at any level of stability some, but not all, of the promiscuously inter-impinging elements are the bearers of the subsequent steps of evolution. We call these the "important" or the "fittest" elements of that level, the "successful" products of the preceding evolutionary stages. But in using such terms we must not forget that we are frankly adding reflection to unreflecting nature. The fact is that some combinations survive, and we call these the "fittest."⁴⁰ Now in this sense hydrogen, carbon, and oxygen seem to be the most "successful" products of that evolutionary stage in which electrons (or whatever the earlier components are eventually found to be) combine into the chemical atoms; just as the higher vertebrates seem to be the most successful products of the biological level of evolution. And Professor Henderson's "pattern" is a handsome contribution to a line of investigation which is bound to be, unless I am much mistaken, the main-line of physico-chemical progress; the investigation, that is, of the interrelations of atomic properties; an inquiry of which the periodic classification of the elements is already one of the fruits. The "teleological" significance of the pattern is illusory: its sober actual value may be very great. It is certainly great enough to need no factitious enhancement.

One wonders, lastly, whether "teleology" is with Professor Henderson more than a passing fancy. For certainly the most rigorous mechanist will hardly disagree with the Professor Henderson who declares that, "beneath all the organic structures and functions are the molecules and their activities. These it is which have been moulded by the process of evolution, and these no

⁴⁰ The late Félix Le Dantec has said that, since "fittest" is a predicate which can be assigned only after the fact (of survival), the Darwinian theory of natural selection is "a mere convenience of language," which explains nothing (Preface to the *Œuvres Choieses de J.-B. Lamarck*. Flammarion, Paris). My present use of the word "fittest" is not that of Professor Henderson, but it has interesting relations thereto.

less have formed the environment.”⁵⁰ And again: “The perfect induction of physical science, based upon each and all of its countless successes in every department of physics and chemistry, conclusively proves that the whole process of cosmic evolution from its earliest conceivable state to the present is pure mechanism.”⁵¹

EDWIN B. HOLT.

THE IDEALITY OF VALUES

I

I SHALL take as my starting-point the pragmatic premise that all values are functional, that they are relevant to the particular instances or the concrete conditions in which they are employed—yes, more than that, they are not only relevant, but they are determined by these particular instances or by these concrete conditions. John Dewey has brought out so forcibly and clearly in his *Essays in Experimental Logic* that values are relative, that they are subject to the empirical, that further elaboration can hardly be necessary. However, for those who are not yet oriented in the method that Pragmatism uses to establish values and standards and criterions I shall briefly cover the position of Mr. Dewey, confining myself solely to the problem of determining values, for it is the analysis of the problem of values with which we are concerned.

Values are dynamic, evolutionary and changeable. Above all values are practical. Dewey says, “a judgment of value is simply a case of a practical judgment, a judgment about the doing of something.”¹ The value of an act or of a condition is wholly determined by the criterion of the individual experience. Does the act or condition fit into this experience; if so, it has a value for the individual which is both real and genuine. The interpretation of these values is wholly from the standpoint of the individual: he is the loser or gainer thereby, and it is he who should be the supreme judge of the value, of the fact, or of the condition. Value originates and thrives through the actual experience of the individual, and it is only as acts or conditions fit into the mass of experience that their value can be determined: “value has its seat necessarily in human nature. . . . Value is a content of nature, having its roots in her conditions and its life in her force.”²

Take, for instance, such a proposition as this: Shall I go out this afternoon to play a game of golf? Before I can answer this ques-

⁵⁰ *Phil. Rev.*, 1916, XXV., p. 265.

⁵¹ *Fitness*, p. 304.

¹ Dewey: *Essays in Experimental Logic*, p. 358.

² Kallen: *Creative Intelligence*, p. 412.

tion I must make a judgment of valuation; I must decide whether the pleasure or the benefit that I shall derive from a game of golf will be of more value to me than that time spent in study, or in an after-dinner nap, or in attending a lecture, *etc.* It is I only who can determine what the value of a game of golf is in my experience. A certain expert might compute the value of the game from the standpoint of enjoyment, or from the physical benefit that it might have for me, but the valuation process, the consideration of the various factors of my experience which must determine my judgment, can only be done by myself. The value of the game of golf for me will depend entirely on the circumstances I am surrounded by.

This valuation process is more than just an appreciation of the game. If there is to be a value judgment there must be mingled the elements of conflict and of desire and of past experience and of imagery. No mere appreciation or a pleasurable or beneficial reaction to the proposition can be considered as a judgment of value. "Actually there do not seem to be any grounds for regarding appreciation as anything but an intentional or enhanced or intensified experience of an object. . . . Either appreciation means just an intensified experience or it means a kind of criticism, and then it falls within the sphere of ordinary judgment differing in being applied to a work of art instead of to some other subject matter. The same mode of analysis may be applied to the older but cognate term 'intuition.' The terms 'acquaintance' and 'familiarity' and 'recognition' are full of like pitfalls of ambiguity."³ A judgment of value, we see, is something more involved and more complex than just a state of appreciation.

Neither do we judge a value when we call a thing good. That involves recognition of the act and the immediate reaction of the agent to the said act in a pleasurable or enjoyable fashion. To give a judgment of value of an act or object it is necessary that all the factors of experience and the future effect or consequences of that act or object upon individual experience be taken into consideration. No mere instinctive or habitual reaction to an act or object can be entertained as a judgment of value. "To *find* a thing good is to attribute or impute nothing to it. It is just to do something to it. But to consider *whether* it is good and how good it is, is to ask how it, *as if acted upon*, will operate in promoting a course of action. Hence the great contrast which may exist between a good or an immediate experience and an evaluated or judged good."⁴ It is not only the experience, but the process of withholding judgment until reflection has taken place upon the character and form of that good

³ Dewey: *loc. cit.*, p. 352.

⁴ Dewey: *loc. cit.*, p. 359.

as it will affect the experience of the agent in the future as well as in the present, that constitutes a genuine judgment of value in the full sense of the word.

Value, in Pragmatism, then, is plural: it is a series of values, a constant ebb and flow which varies with the varying functions to which it belongs. There is nothing stationary or static about it, but each different function has a different value for every individual. These values are determined by the way these acts or objects fit into the general experience of the individual who is to be the judge of their value. This evaluation process consists of careful weighing and considering of facts, taking into account not only the immediate experience, but reflecting upon what the effect of the act upon the future or distant experience may or will be. Valuation, then, may be classed as a way or mode of knowing, for a judgment of value presupposes a knowledge of the relation between the act or object that is to be experienced and the environment. Dewey says: "It is first asserted (or assumed) that all experiences of good are modes of knowing: that good is a term of a proposition. Then when experience forces home the immense difference between evaluation as a critical process . . . and ordinary experience of good and evil, appeal is made to the difference between direct apprehension and indirect or inferential knowledge, and 'appreciation' is called in to play the convenient rôle of an immediate cognitive apprehension."⁵ The value, then, is inseparably bound up with the act or object. Every act or object must be judged by itself separately; one can not treat them *en bloc*.

II

While it is true that the pragmatic test is the only test that we admit for determining values, yet it is not heresy for me to attempt to analyze what these values are after they are determined—what their content and quality may be. If we judge an act or an object good we are assigning a certain quality of goodness to it which makes that act an act of value. Just what is meant when we value an act or object as good? What do we mean by good? In a conversation quite recently with the writer, Professor A. W. Moore made the statement that *all* values, even in Pragmatism, must be ideal. What is meant by referring to a value as ideal? It shall be my task here to attempt an explanation of that.

When we speak of an act or object as good, and when we proceed to classify it according to its degree or quantity of goodness, we are using a standard for our judgments which needs an explanation. Where do we get this standard by which we assign degrees and dif-

⁵ Dewey: *loc. cit.*, p. 353.

ferences of values to acts and objects? Clearly, it can not be *a priori*, nor can it be just given. We may have, for instance, two acts which after the judgment of evaluation we pronounce good. This does not mean that both are coordinate and equal as regards the quality or quantity of their goodness. Both acts may be beneficial to us in either our present experience, or, as we surmise, in our future experience, but this does not at all mean that both acts will benefit us equally. We most decidedly have a scale which we use for our evaluation, and the question of how we arrive at this scale is the question with which we are concerned in this paper. Do we compare our values with each other, or are there ideal values with which we compare them?

Professor A. W. Moore in his book *Pragmatism and its Critics* says as follows: "As for 'the blind leading the blind,' the evolutionist believes that it is just by this process of mutual leading—whatever the agents involved in it—that light and sight are *created*. And when the absolutist again asks, 'Leading where?' the evolutionist's answer still is, In the direction of the ideal worked out in and by the social process [which the individual undergoes] 'in order precisely to *give itself* a direction—a 'where.'"⁶ Here we must look for our standard of values, in the social process which the individual undergoes. In the constant demand upon him that he judge various acts and objects for their value, he, as it were, projects himself through this process and makes the quality and content of his values ideal. The constant process of weighing and balancing known values and the constant reconstruction which takes place in regard to these values tend to establish a general type of values whose content must necessarily be ideal.

Values for humanity must always be permanent and ideal. The good must always be good; it can never become neutral, if it is to be considered as a value. Humanity always builds up a working hypothesis for the ideality and superiority of its values; its belief in the eternal quality of the functions which it uses for the purpose of evaluation rises supremely triumphant from the world of experiences. Values would lose their value if they lost their ideality. Theories could not replace values here, for, in order to have theories which would suffice to replace values, values themselves would have to be existent. "Aristotle's description of the self-sufficiency of theory is possible only for a life wherein theory had already earned this self-sufficiency as practise, in a life, that is, which is itself an art, organized by the application of value-forms to its existent psychophysical processes in such a way that its existence incarnates the

⁶ A. W. Moore: *Pragmatism and its Critics*, p. 278.

values it desiderates and the values perfect the existence that embodies them.”⁷ You can not theorize about such qualities as goodness or truth, *etc.* It is even very difficult to abstract them from their objects or actions for the purposes of analysis. You can discover the goodness or trueness of an object or act by applying it to the individual experience, past, present, and future, and you can only get your notion of goodness or trueness by experiencing objects or acts that are true or good. A notion of goodness or truth is based directly upon concrete experiences, but it does not stop here; it goes beyond. In order that a value may be a value in the true sense of the word, it must transcend any separate individual experience. An act or object may be evaluated as good by an individual, but it is “never so good but what it might be better,” putting it into common parlance. Values are always ideal in themselves, and the value of an individual act or object is always contrasted with this ideal value. This desire for the permanentness of values is the underlying principle in the desire for immortality. The individual hopes for an eternal unchangeableness and steadfastness of those qualities which he has designated as values. “At bottom it means the assurance that the contents of value can not and will not be altered or destroyed, that their natures and relations to man do not undergo change.”⁸ In order that these values may be permanent and unchanging they must be ideal. We ascribe all kinds of desirable forms to these contents of values, forms which are in themselves ideal. To good, for example, we also ascribe beauty and wisdom. This is perhaps responsible for their one-time metaphysical designation. Unity, spirituality, and eternity were some of the forms which the contents of value received, and which they still receive, varying, of course, with the individual environment. What the ideal contents of these values are varies, as has been stated, according to the individual—his past experience and his present environment. The important phase in these values must be ideal if they are to be usable as designations for the functions of an act or an object, and it is the individual that makes them ideal. He does this by projecting himself by means of his past experience and his proficiency in rendering judgments of evaluation into the future, and establishes an ideal which serves his purpose and which is subject at any time to reconstruction. “The moral experience is not essentially and in its typical emergencies a recognition of values with a view to shaping one’s course accordingly, but rather a determining or a *fixation* of values which shall serve for the time being, but be subject at all

⁷ Kallen: *Creative Intelligence*, p. 460.

⁸ *Ibid.*, p. 428.

times to re-appraisal."⁹ This reconstruction takes place when the individual attains to a fuller knowledge of ethical reality, when the present ideal qualities no longer satisfy and function: then a new ideal quality for the value becomes imperative and the individual by projecting himself establishes new forms, new qualities, new contents to his values which thereby become essentially ideal.

GERALD A. KATUIN.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Physical Basis of Heredity. THOMAS HUNT MORGAN. Philadelphia: J. B. Lippincott Company. 1919.

Biology has in recent years been tugging at the leading-strings that have tied it to the older descriptive method, and has made an effort to break loose and to walk in the ways of the experimental and exact sciences. This effort has been most strikingly successful in the field of heredity, where the research of the past twenty years has revealed definite mathematical laws and a physical mechanism by which these laws may be explained. A particular interest, therefore, attaches to the present volume, which gives an account of the work that has cleared up the question of heredity—a question that had previously been one of the most difficult and complex that biology has to deal with.

The work of Mendel in 1865 showed that there are in the organism discrete hereditary units which are transmitted in definite ways from generation to generation. Since the rediscovery of Mendel's laws in 1900, it has been found that the entire hereditary complex is a mosaic of such units. The hereditary factors are located in the chromosomes, which are small rod-shaped bodies in the cell nucleus; within each chromosome the factors are arranged in a linear series. The method of distribution of the factors can be summed up in several laws or generalizations of heredity, on the basis of which it is possible to predict with mathematical exactitude the results of any particular mating. These laws are, however, merely another way of stating that the hereditary factors are located in linear series in the chromosomes. Thus the laws of heredity, while experimentally established beyond question, may be derived as corollaries of the known biological mechanism by which the chromosomes are divided and distributed.

Conversely, from the behavior of the hereditary factors, it is possible to deduce the behavior of the chromosomes, and even to map out the topography of each chromosome and to show the relative loca-

⁹ Dewey: *Studies in Logical Theory*, p. 298.

tion of the hereditary factors within it. The organism is thus disclosed as a collection of at least hundreds, and possibly of several thousands, of independent self-perpetuating units, which are literally the heritage of each species. It is by the interaction of these factors with each other and with the environment that the organism is built up. But, although we know how the factors are distributed in heredity, we do not yet know how they interact to produce the organism. The solution of the embryological problem waits for a fuller knowledge of the intermediate stages between the factors and the characters which result from them.

It has also been shown that sex is a character inherited as definitely as any other. Sex differences have been traced to differences in the chromosome mechanism, one of the sexes possessing a chromosome not found in the other. The sex of the offspring thus depends on whether or not it receives the extra chromosome.

These discoveries have not only disclosed the mechanism of heredity; they have whittled away a large part of the mystery that had surrounded the question of the method of evolution.

It is obvious that if Mendelian units comprise the heritage of a species, changes in the species must be due to changes in the Mendelian factors. The fruit fly, *Drosophila*, which has been bred in the Columbia laboratory for ten years, is a particularly favorable organism for the study of such changes or mutations, since a new generation can be obtained every ten days. So far there have been found over three hundred mutants, from each of which a distinct race has been isolated. All of these races are descended from wild flies; each differs from the wild type in a single hereditary factor, and yet each race is entirely distinct. By combining the different mutant characters the biologists can obtain a fly which differs widely from the original type.

The study of these mutations has settled the question of continuous versus discontinuous variation. It has shown that variation is, in deVries's sense, discontinuous; that each change, or mutation, is sudden, definite and stable. But the change, while sudden, is not necessarily large; it may be, and frequently is, minute. So that by the piling up of such minute changes we may get continuous variation in Darwin's sense.

It must have been by the accumulation of such changes or mutations—sometimes large, sometimes small—that species have become differentiated in nature. The truth of this is further indicated by the fact that in several cases differences between species have been proved to be due to differences in one or more Mendelian factors. Presumably, therefore, the differences must have arisen in the same way as those found in the laboratory, that is, by mutation. If this

is so, the biologist need not content himself with viewing the panorama of evolution respectfully from the distance of the ages; he can actually observe the process going on in his laboratory.

The next step is to induce mutations experimentally, but this has not yet been done. We know exactly what it is that changes, but we do not yet know how the change is brought about.

Although the mutation theory in the form first proposed by deVries was backed largely by evidence which he had obtained regarding sudden changes in the evening primrose, it now appears that the changes he observed were probably not alterations in the hereditary factors themselves, but consisted merely in the formation of new combinations of old factors, taking place in a peculiar way which has since been duplicated in *Drosophila* experiments. Nevertheless, the work on *Drosophila* places it beyond doubt that real changes in hereditary factors, or mutations, do occur, even though the so-called mutations in deVries's evening primrose are probably not valid examples of the process.

It is a curious fact that Mendel's original discovery, which laid the foundation for all the recent work in heredity, aroused no interest during his lifetime. Most biologists were then engaged in comparing the structures of organisms, in speculating on transitional forms, and seeking these intermediate forms among living or fossil animals and plants, or in their own imaginations. While this gave a plausible moving picture of the successive stages of evolution, it told us nothing of the mechanism which brought the stages about. Paradoxically enough, it was the turning away from the historical method that threw light on the method of biological history; for only with the shifting of the center of interest from the descriptive and historical to the mechanical and experimental mode of procedure was Mendel's discovery appreciated and a particulate theory of heredity developed. This theory has explained the mechanism of heredity and sex determination; it has all but solved the question of what evolutionary change is; and it has enabled the biologist to analyze the structure of living matter by a method which, like the astronomer's analysis of the constitution of the stars, is none the less precise because it does not treat the unknown with chemical reagents.

ALEXANDER WEINSTEIN

COLUMBIA UNIVERSITY.

Inbreeding and Outbreeding: Their Genetic and Sociological Significance. EDWARD M. EAST and DONALD F. JONES. Philadelphia and London: J. B. Lippincott & Company. 1919.

Whether close inbreeding causes deterioration of the race and cross-breeding re-invigorates it, is a question that has long been dis-

puted. Darwin treated the subject at some length and gathered evidence both from the records of breeders and from his own experiments. But the problem could not be settled on the basis of the incomplete data and insufficient knowledge of heredity available in the past. It was not until the development of the Mendelian theory that a sufficiently powerful method of analyzing the problem was discovered. The book by Professor East and Dr. Jones gives an account of the solution of the problem by means of this theory.

It has been generally believed that inbreeding is accompanied by a deterioration of the race, and that when this occurs cross-breeding brings about renewed vigor. The older workers were inclined to attribute these results to the method of breeding itself; and the notion that close inbreeding is in some mysterious way harmful, is still widely prevalent.

The modern advances in heredity have, however, shown that it is not the inbreeding itself that is harmful. Inbreeding merely separates out of a complex population the different component strains. Each strain is purer, and hence more uniform, than the original mixture; but whether the result is good or bad depends on the nature of the hereditary factors which were present in the original population, for inbreeding merely sorts out what is already present. After this sorting out has taken place, that is, where a race is pure, inbreeding produces no change.

The matter is not, however, quite so simple, because it has been shown that certain hereditary factors fail to produce their effects in the presence of certain others. If there are potentially injurious factors thus lurking unseen in the original population, it is easy to understand how they may produce a bad effect when separated out.

Conversely, the good effects of cross-breeding are due to each race's supplying factors which counteract the injurious factors of the other race; and only where one race supplies the good points which the other lacks does an improvement result.

The data which East and Jones have here brought together have a wide applicability to practical animal and plant breeding. The authors also attempt to apply them to the field of human heredity. It is obvious that if such a character as mental ability is due to a happy combination of hereditary factors, the falling apart of the combination through the distribution of the factors in the course of heredity will account for the comparative scarcity of genius. Such generalizations are of great value in pointing out the direction of further research. Undoubtedly the laws of heredity are theoretically as applicable to man as to any other animal. There are, however, two difficulties in the way of applying them practically. One is the lack of definite knowledge concerning the inheritance of specific

human traits; the other is the lack of an objective standard of value. As East and Jones say, "Each sub-race believes implicitly in its own superiority and hopes for continued increase and ultimate survival. Perhaps such prejudice prevents any wholly objective discussion of the matter" (p. 248). While East and Jones are therefore quite correct in advocating research in human heredity, they are also entirely right in not claiming that the general theory of heredity has the same precision of application to specific cases in man as to cases in other organisms where a greater knowledge of details is available. East and Jones deserve all the more credit for calling attention to these difficulties because their own treatment of human heredity does not avoid the objections which they rightly raise against others.

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JOURNALS AND NEW BOOKS

PSYCHOLOGICAL REVIEW. November, 1919. *Emotion and Perception from the Behaviorist Standpoint* (pp. 409-427): GRACE A. DELAGUNA. - A discussion of the relation of emotion to perception is given. *Dark-Adaptation with Especial Reference to the Problem of Night-Flying* (pp. 428-453): PERCY W. COBB. - Fifteen subjects were tested. Several conclusions were drawn including "the limit of vision in dark-adaptation measured by the least brightness at which gross form may be recognized, is variable within extreme limits expressed by the ratio 7.4 to 1." *A Direct Deduction of the Constant Process Used in the Method of Right and Wrong Cases* (pp. 454-464): GODFREY H. THOMSON. - The object is to show the constant or Fechner-Müller-Urbach process of calculating thresholds can be directly deduced from first principles. The historical development of the process is first traced and then contrasted with the direct deduction. The latter throws into clearer relief the nature of the assumptions and approximations made, and justifies Urban's, as against Müller's Table of Weights. *Time Relationships in the Formation of Associations* (pp. 465-473): H. A. CARR and A. S. FREEMAN. - Experimental data are presented from the field of animal psychology concerning two related problems: (1) The first question concerns the relative merit of simultaneous and successive presentation in relation to the speed of learning; (2) the second problem concerns the readiness with which a given temporal association will function in a backward as compared to the forward directions. The curve of learning for simultaneous presentation is one of positive acceleration. That for successive presentation approximates a straight line ascent with some indication of a slight negative acceleration. The

formation of an association between a stimulus and a motor response by animals is exceedingly difficult and perhaps impossible when the stimulus is presented after the act has occurred. *Retro-active Hypermnnesia and Other Emotional Effects on Memory* (pp. 474-486): G. M. STRATTON. — A collection of reports of what several of the writer's students remembered about the 1906 San Francisco earthquake.

Bosanquet, Bernard. *Implication and Linear Inference*. London: Macmillan & Co. 1920. Pp. viii + 180. 7s. 6d.

Kirkpatrick, Edwin A. *Imagination and its Place in Education*. Boston: Ginn & Co. 1920. Pp. 207.

NOTES AND NEWS

We give below the preliminary announcement of the Congress of Philosophy which is to be held at Oxford, September 24-27, 1920:

The following Societies will take part in the Congress:

The American Philosophical Association.

The Aristotelian Society.

The British Psychological Society.

The Mind Association.

The Oxford University Philosophical Society.

The Société Française de Philosophie.

The prospective arrangements (subject to alteration), are:

September 24th (Friday)

Opening Address by M. Henri Bergson on the subject "Création ou le Nouveau," to be followed by discussion. Lord Haldane will preside.

September 25th (Saturday)

A Symposium on the Philosophical Aspect of the General Theory of Relativity, by Professor Pierre Langevin, Professor F. A. Lindemann, Mr. W. D. Ross and Dr. C. D. Broad.

A Symposium on "Does Thinking consist merely in Language Processes?" by Miss E. M. Smith and Mr. F. C. Bartlett, Dr. G. H. Thomson, Professor T. H. Pear, Professor John B. Watson and Professor A. Robinson.

A Paper for discussion on "Disorders of Symbolic Thinking due to Local Lesions of the Brain," by Dr. Henry Head and a paper in reply by Dr. R. Mourgue.

An Address by M. Emile Boutroux "L'usage de l'intelligence la plus propre à nous faire connaître la Nature," to be followed by discussion.

September 26th (Sunday)

A Special Service in the Cathedral, with sermon by the Very Rev. T. B. Strong, Dean of Christ Church.

A Symposium on "The Relation of Religion and Ethics," by Professor Edouard LeRoy, Professor J. A. Smith, Principal L. P. Jacks and Baron F. von Hügel. M. Belot, Professor Bouglé, Professor Chevalier of the University of Lyons, and Professor Gilson and Professor Vermeil of the University of Strasbourg, will take part in the discussion.

A Symposium on "Mind and Medium in Art," by Mr. C. Marriott, Mr. A. B. Walkley, Professor H. J. Watt, Mr. E. Bullough and Mr. C. W. Valentine.

September 27th (Monday)

A Symposium on "The Meaning of 'Meaning,'" by Dr. F. C. S. Schiller, Hon. Bertrand Russell and Professor Harold H. Joachim.

A Symposium on "Is the existence of the Platonic ΕΙΔΟΣ presupposed in the analysis of reality?" by Mr. C. E. M. Joad, Professor R. F. A. Hoernlé, Miss L. S. Stebbing and Mr. A. D. Lindsay.

A Symposium on "The Function of Nationality," by M. Marcel Mauss, Professor Elie Halévy, Professor Théodore Ruysen, M. René Johannet, Sir Frederick Pollock and Professor Gilbert Murray.

The Session will be open to Members of the constituent Societies and visitors introduced by them. There will be a subscription of 15/- to meet the cost of printing and distributing the Papers. Symposium Papers will be taken as read, and the Authors will open the general discussion. Members of the Societies unable to attend the Session and desiring to receive the papers can obtain them by paying the subscription.

The Papers will be subsequently published in the Aristotelian Society *Proceedings*, the *British Journal of Psychology*, *Mind*, and the *Hibbert Journal*.

Mr. A. H. Smith, New College, Oxford, will act as Honorary Secretary for all matters which concern the local arrangements and will receive subscriptions and applications.

Communications in regard to Papers and Symposia should be addressed to Professor H. Wildon Carr, 107, Church Street, Chelsea, London, S.W. 3.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

NORMAL LOGIC OR THE SCIENCE OF ORDER

I. WHAT IS LOGIC?

UNDER certain conditions all men think alike; judgments and inferences are universal. "Where there is smoke there is fire," is an inference arrived at in precisely the same way, and with precisely the same result, no matter whether the thinker is a cowboy or a philosopher. Yonder on the wooded hillsides rises the gray vapor, and we know at once that a fire has been kindled.

What is the ground of this unanimous conclusion? Is it instinct? Many logicians would answer in the affirmative. They might, perchance, even stigmatize it as *blind instinct*. "Common-sense deduction probably moves by blind instinct." (A. N. Whitehead: *The Organization of Thought*, p. 127.) "The natural behavior of men, as of other animals, is not logical, but instinctive." (R. C. Lodge: *Modern Logic*, p. 1.)

Are common-sense conclusions a matter of heredity? Again we get affirmative answers. "The main outlines of life are fixed in the main by inherited racial tendencies." (R. C. Lodge: *Modern Logic*, p. 1.)

Other logicians would say that common-sense conclusions are intellectual rather than instinctive. They might even hint that the superior pose, intellect *versus* instinct, affected by some authors towards ordinary mortals, is merely a bit of priggishness. But suppose that we, for the sake of argument, grant the instinctive solution. It may enlarge our conception of instinct and heredity to an extent such that we, after all, may approximate the intellectual solution.

We shrewdly suspect that there is something deeper than instinct, deeper than heredity, at work to produce this remarkable harmony of thought in minds so diverse in native endowments and acquired culture. We want to go a bit below the surface and see if there is not some profound reason for common-sense behavior. It may be in some sense both instinctive and hereditary, but is that the

end of the matter? Is it to be summarily excluded from further consideration by the logician?

The basis of instinct is cosmic order. Cosmic organization consists in an intricate network of constant relations, such, for instance, as the familiar dyad relation, smoke—fire. Instinct—or intellect, whichever it may be that is at work in common-sense mental activity—acts in harmony with these constant relations. Such action implies a definite type of nervous structure, and this is propagated from generation to generation. Thus inference may be, in a liberal sense of the terms, both instinctive and hereditary; but all the same it is its solid basis in cosmic order that makes it uniform in all minds.

But is common-sense inference logical? The authors cited above evidently mean that instinctive hereditary thinking is not logical. "Not logical, but instinctive," is their verdict. They urge us to become logical by deliberate choice and determined perseverance. "The value of cultivating such a mental attitude is beyond question." (R. C. Lodge: *Modern Logic*, p. 3.) Just as if any sane mortal could help being logical. The cosmos is logical, and its objective control settles the matter for us out of hand. This, of course, is not to deny the unquestionable value of *improving* the inborn logical faculty, bringing more clearly into consciousness its nature and its guiding principles.

We need to enlarge our conception of what is logical. When we characterize a given treatise or discourse as logical, what do we mean? Certainly not that it is cast in syllogistic form. We mean that it is clear, cogent, coherent, well arranged, orderly. Logic is the science of order. And order is cosmic in its range and influence. Sane thinking is logical thinking not simply because we want it to be logical. It is not ultimately governed by human desire or caprice. It is logical because the universe is logical, and we think—so long as our thinking is normal—in harmony with the environment. And by the environment we mean not merely the material universe but the whole universe, including both mind and matter. Whether or not the cosmos included a mental element from the beginning, it certainly does now include mind. And its constituent parts are not at war; they blend and harmonize. Not only are we in the cosmos; the cosmos is in us. The mental world, so long as it is normal, is no less orderly than the external world. The stars in their courses tell the story of cosmic order; they "sing together" as in the creation. And the mental world responds in sympathy; "deep answers unto deep." The notes of harmony in the material universe are matched with answering strains within—unless, as sometimes happens, the latter are "like sweet bells jangled, out of tune." Our normal thinking flows in orderly channels to reach sure and sane conclusions because

both mind and matter are shot through with the same systematic texture. Cosmic order is internal as well as external. Logical thinking is clear, sure, goes straight to the point, because it is the thought of a sane thinker in a sane world, not a world of chance. This, of course, is not to say that all human thinking is sound and valid. But when it does fall short of the logical ideal, that is because we misconstrue or misapply some item of cosmic organization.

Defining logic as the science of order is more comprehensive than the old definitions. It links logic with the orderly cosmos, bases it upon the *norms*¹ of cosmic order, thus giving it an objective as well as a subjective reference. For these norms are both objective and subjective; they are bedded in the structure of the material universe and also in the constitution of the human mind. This gives normal logic a just balance as between objective and subjective control. The old logic is too exclusively subjective, too anthropocentric. The familiar definition, "Logic is the science of reasoning," referred exclusively to human reasoning. "Logic is the science of the laws of thought," referred to the ways in which *men* think, ignoring the objective control of cosmic order. A clear example of the old anthropocentric point of view is the following remark of Baldwin in his *Dictionary of Philosophy*, Vol. II., p. 21.

"It is true that the contemplation of a state of things believed to be real may cause the contemplator to believe something additional without making any classification of such sequences.² But in that case he does not criticize the procedure, nor so much as distinctly reflect that it is just. He can, consequently, not exercise any control over it. Now that which is uncontrollable is not subject to any normative laws at all; that is, it is neither good nor bad; it neither subverts an end nor fails to do so. But it is only the deliberate adoption of a belief in consequence of the admitted truth of some other proposition which is properly speaking reasoning."

According to this dictum logical thinking must be under subjective control. Just what that means might not be easy to determine, but at any rate it ignores—nay, it flatly denies—objective control. "That which is uncontrollable [by the thinker] is not subject to any normative laws at all." But external control is a stubborn fact; we

¹ In view of the leading rôle of the norms of cosmic order *Normal Logic* is an appropriate name for the science of order.

² "Classification of sequences" here refers to Baldwin's definition of logic, or its "central problem," as the "classification of arguments," a very narrow and inadequate definition. The primary and essential business of logical thinking is the *making* of judgments and inferences. Classifying them as good or bad is secondary, not as he claims the "central problem" of logic. Indeed it is not a problem at all for the original ordinary thinker; and even for the critical logician it is just one problem among many.

must think in harmony with the environment or go crazy. The insane man ignores objective control, and consequently revels in hallucinations.

The practical consequences of this dictum, if it were rigidly applied, would be far-reaching—more radical and sweeping than its author probably realized. If we sternly exclude from logic all judgments and inferences based on objective control, it would be interesting to consider just what we have left. The fundamental division of logical functions is twofold. There are, in the first place, Direct Interpretations of the Environment, first-hand judgments and inferences evoked when the thinker is confronted with a natural situation not expressed in words; for instance, vigorous puffs of steam from the spout of the kettle imply that the water is boiling. We know the “something additional” to what we see without applying a thermometer, and we are constrained to believe it on account of the constant relation between boiling and steam. It is a clear case of external control. The thinker has no power to reject the conclusion.

There are, in the second place, Verbal Implications, those logical functions characterized by “deliberate adoption of a belief in consequence of the admitted truth of some other *proposition*.” Baldwin follows traditional logic in accepting only verbal implications as logical. Direct inferences from reality, which are clearly under objective control, being thus excluded, we must inquire into the kind of control to which verbal implications are subject, if we would meet Baldwin on his own ground. The justice of excluding the first grand division of logical functions, spontaneous dyad inferences,³ will be considered below.

For an example of verbal implication let us suppose that we have accepted as true the verbal proposition, “Arnold is a traitor.” We are thereupon forced to the conclusion, “He deserves death.” Here the control is of a somewhat mixed character. There is, on the one hand, human custom, possibly embodied in statute law. On the other hand there is self-preservation of the community, that “first law of nature,” which demands the death of a sly enemy within the gates. Human custom has a natural sanction. But no matter whether we emphasize the human or the natural factor in this kind of control, it is in either case objective control for the individual thinker. Even the human factor in it is cosmic, for cosmic order includes humanity and includes constant relations which may be either wholly or partly of human origin, such, for instance, as the relation treason—death.

³ *Dyad inferences* are inferences based on dyad relations, such as the simple relation A — B, or steam—boiling water. Dyad relations far outnumber the more complex relations.

Whatever of order has been evolved within the cosmos is a part of cosmic order.

The above example illustrates one kind of objective control in verbal implication—objective at least so far as the individual thinker is concerned. Another kind of objective control is necessity. All logicians recognize certain conclusions as necessary. But necessity means imperative objective control. The thinker has no option left when necessity is in the saddle.

External physical control is still another kind of objective control, and it applies both to verbal implications and spontaneous dyad inferences. In many cases the control is precisely the same no matter whether the datum is a verbal proposition or a fact directly observed. For instance, "Barometer falling—storm coming," is just the same inference, and it is under the same external control, no matter whether I get the datum by looking at the instrument or by reading the weather report. We mean that it is essentially the same, and deserves the same honorable treatment as a sound and valid piece of logical thinking, though in our fundamental classification of logical functions it is in the one case a direct interpretation of reality, and in the other case a verbal implication.

We find that verbal implications may be under objective control either of human origin or of external physical origin. Direct interpretations of reality are generally under physical control. Such being the actual status of both verbal implications and spontaneous dyad inferences, *i. e.*, they are generally under some sort of control which is objective to the individual thinker, we fear that we should have left a very beggarly scrap of logic if Baldwin's anthropocentric dictum were rigidly applied.

In order that we may not do injustice to Baldwin, an author whose ability is freely recognized at home and abroad, we quote the following from the Glossary of Terms in his *Genetic Theory of Reality*, p. 315.

"*Control*: the limiting, directing, regulative (as over against the constitutive) factor in the determination of anything.

"*Illustrations*: the determination of a physical object has the external control afforded by sensations of resistance; that of ends, goods, objects of desire, has the inner control of appetite, interest, *etc.*"

This definition, together with the fact that all through his *Genetic Logic* he recognizes external control, relieves Baldwin of the reproach of ignoring so obvious an element of logical thinking. Still this leaves him in the inconsistent position of acknowledging that factor without giving it due weight in his dictionary definition of logic.

Incidentally it adds the weight of his authority to our contention for the existence and efficiency of external control.

As for the justice of excluding from logic spontaneous dyad inferences, two-term inferences, the reason for it assigned by Baldwin is clearly untenable. To exclude them for lack of subjective control, and to apply that test impartially, would exclude almost the whole of logic. The old logicians seem to have excluded them on the ground that they are not syllogistic. In the last analysis their reasoning was a *circulus in probando*. Direct dyad inferences are not logical because they are non-syllogistic. The syllogism is the universal type of reasoning because whatever is non-syllogistic is not truly logical. Reasoning in a circle is not very conclusive.⁴ We shall have to search for better grounds than either Baldwin or traditional logic has to offer if direct interpretations of reality are to be permanently excluded from logic. Since these better grounds are not clearly in sight we make bold to regard spontaneous dyad inferences as logical. We are the more inclined to accept them when we consider the absurd consequences involved in their rejection. Inferring dirty weather from falling barometer would not be logical if I made the observation myself. I must have before me, and that accepted as true, the verbal *proposition*, "The barometer is falling," in order to proceed in the proper manner. Absurdities like this are among the grave consequences of setting up an arbitrary artificial standard of what is logical. I see the flash and hear the report of a gun, and see a man fall dead. I might think it was a case of murder. At the very least my inference would be homicide, whether or not it might be justifiable. My neighbor, a jurymen, hears the same facts embodied in oral testimony, *verbal propositions*, and he thereupon draws the

⁴ Some logicians who may admit that spontaneous two-term inferences are logical would no doubt claim that they are enthymemes, syllogisms in embryo, and proceed to *make up* a major premise for each of them. We wish them joy of that unique industry. The outcome of their labor of love might be something like this:

Every case of that peculiar grunt being heard is a case of a bear being somewhere about.

This is a case of that peculiar grunt being heard.

This is a case of a bear being somewhere about.

We are not quite sure that such labored results of that industry are wholly free from the easily besetting syllogistic sins, but aside from that, do they represent actual thinking? Even if it could be shown that civilized adults think in syllogisms, it is a far cry from the modern man in a frock coat to the naked troglodyte. In dim forests, himself hungry and beset with hungry beasts, quick and sure thinking was more to the point than triple-line syllogisms. That bear might pick his bones before he could make up a major premise. It is a common fallacy to project back into the initial stages of evolution features which belong only to its latest stage. We fear the cave man would turn in his grave if he were told that he must think like an Aristotle.

same conclusion. Is his reasoning any more logical than mine? Both are based on the same principle of cosmic order, the fatal effect of gunshot wounds. Both I and my neighbor are forced to believe as we do. It would defeat the ends of justice if jurymen assumed to control their own thinking in defiance of external physical control.

As a matter of fact first hand inferences are not only logical but better, sounder, more reliable than verbal implications, those pets of the old logic. The eye-witness has the whole situation before him and is able to shape his conclusions accordingly. If the victim had a loaded gun pointed at his assailant, we may infer justifiable homicide in self-defense. It is extremely difficult to bring out all the modifying conditions in oral testimony. Few witnesses have the faculty of accurate observation and lucid description. Memory is notoriously treacherous. All these handicaps to verbal implications weigh heavily against them. Our direct judgments and inferences arising spontaneously when confronted with a natural situation not expressed in words, are not only the most numerous but also have the greatest practical value for the guidance of conduct. Excluding them from logic is a gross waste of good logical material.

Now while we are insisting on the grave consequences of excluding dyad inferences from logic we must not ignore the fact that equally significant consequences follow from their acceptance as logical. But the advantage on the side of accepting them is this: In that case the consequences are beneficial. Notably the scope of logic is much extended. The current ordinary reasoning of mankind is chiefly of the spontaneous dyad type. So was that of primitive man; so is that of children, though both are normally logical in the just and rational sense of that term.⁵ All this broad field of investigation, from the thinking of the cave-man to that of the philosopher, is fair game for the logician, and its diligent cultivation would make logic a live and growing science, a crowning benefit most desirable of all.

Notwithstanding the lack of sound reasons for their attitude, logicians who desire to conserve the old landmarks will doubtless continue to resist the admission of those wild cattle, spontaneous dyad

⁵ Some authors, as we have seen above, may pronounce common-sense reasoning merely instinctive, not logical. That is a fad akin to the lordly air of the genus *Homo* towards other animals—his own ancestors, by the way. All signs of brute intelligence he simply labels *instinct* and lets it go at that.

Professor A. N. Whitehead, after stigmatizing common-sense thinking as moving by "blind instinct," so far forgets himself as to admit that the inference "mewing heard ∴ cat somewhere about," is a case of "deliberate ratiocination" (*The Organization of Thought*, p. 142). But this is a typical dyad inference, and "the man in the street" would handle it in precisely the same way as our eminent symbolist.

inferences, to the sacred precincts of their neat logical pinfold. They scent danger from afar; with good reason too, for normal logic is frankly revolutionary in its acceptance of dyad inferences as logical.

We do not claim originality for our definition of logic. Credit for it is due to Professor Royce. He used it in his excellent article in the *Encyclopedia of the Philosophical Sciences*. But Royce failed to grasp the full breadth and significance of its cosmic affinities, and he developed only the mathematical side of it. His exposition bristles with symbols and formulas.

We aim to develop the other side of normal logic, the every-day practical side. For this purpose we find algebraic symbols unnecessary, in fact not only unnecessary but confusing and hampering. Ordinary language is quite adequate for the expression of simple judgments and inferences. Many algebras of logic have been invented, very diverse and even hostile and contradictory; but they all agree in that they are ponderous, formidable, unwieldy. To use such heavy machinery for the expression of the simple judgments and inferences of ordinary logical thinking would be like setting up a powerful triphammer to drive a nail.

For a short answer to our initial query, What is logic? we may say that as a mode of mental activity it is simply sane, coherent, orderly thinking. Normal logic broadens the traditional conception of this science by emphasizing these three factors: (a) the existence and efficiency of external control, (b) a well-balanced twofold basis of reference both objective and subjective, (c) the sound logical quality and value of spontaneous dyad inferences.

II. LOGICAL CRITERIA

How shall we know what is logical when we see it? The detailed analytical investigation, aimed at disclosing the essentials of logic in every one of its evolutionary stages, demands *criteria* to enable us to distinguish what is truly logical from that which lacks the essential logical marks. But in the mental sciences, just as in commerce, demand often outruns supply. Good logical criteria are rare. The old definitions will not serve our purpose. When we say that logic is the science of reasoning, our predicate is sadly in need of definition; and any good criterion of reasoning would also be a good criterion of logic. The definition is true enough, so true indeed that it is a truism. But like other tautologies it is worthless as a practical test of what is logical.

Many writers accept syllogistic form as a practical test of what is logical. But judgments are logical, though non-syllogistic. Also direct interpretations of reality are logical, though non-syllogistic.

This syllogistic criterion implies adherence to the traditional view that verbal implications alone belong to logic. The syllogism has a legitimate function as an *ex post facto* analysis of some of these verbal implications, but by no means as the sole and universal type of reasoning. Hence syllogistic structure is far too narrow in its scope to serve as a logical criterion.

Professor Baldwin specifies certain logical criteria which are well worthy of our consideration. On page 271, Vol. I., of his admirable work on *Genetic Logic* he says:

"It is, therefore, now not a difficult thing to express an opinion which we should expect to find fairly acceptable as to the logical criterion. If we are asking about the criterion of the function, it is simply that quite definite and unambiguous attitude of the mind, always indicative of judgment as act or disposition, ordinarily called Belief. If we, on the other hand, wish to know the criterion of the content of the logical, it is that relatedness which fulfils and motives theoretical interest. If, yet again, we are bent on inquiring what is the criterion of this mode of psychic life as a whole, that character which determines its place in the sequence of modes of cognition, we have to say that it is the dualism of subject and object, meaning by subject the 'I' that thinks and judges, and by object the 'me' or other thing that the 'I' thinks and judges about."

Belief, Relation, and Dualism of Subject and Object, are Baldwin's three logical criteria. The first is good as far as it goes; sane logical thinking commands belief. We believe our logical conclusions because we think they are true. True-or-false quality is a mark of what is logical. But while this acceptance with belief is a real logical mark it is not an exclusive mark. Many things which are alogical inspire belief.

Relation is more fundamental than belief. It is in fact the very bed rock of cosmocentric logic, so that it has been proposed to define logic as the science of relations.⁶ Relation stands preeminent among the norms of cosmic order. Its great value is due to the fact that many relations are *constant* in human experience. Constancy of relations is the backbone of normal logic. The old logic based its universals upon the so-called *necessary connections*. These are at bottom the same as constant relations, but we prefer the latter name for them because all we really know is a certain fairly reliable degree of constancy. Necessary connection is an arbitrary assumption; reasonable constancy of relations is a matter of uniform human experience. For instance, we confidently assume that feline nature with all its faculties and attributes, accompanies the feline voice, and may

⁶ Cf. Albert E. Avey, "The Present-day Conception of Logic," *Phil. Rev.*, XXVII., 4, p. 405.

be inferred from it when we hear mewing in the dark. And this we do because in our experience the cat is always there when we hear that note, not that there is any necessary connection between mewing and cats.

An illuminating side-light on the value of constant relations is obtained by comparing logical inferences based upon them with psychological suggestion, or association of ideas. Suggestion is free and easy, unfettered by any rigid control; it may fly wide and wild; any given thing may suggest any other. Inference based on a constant relation keeps to its plain beaten path. In suggestion there is no mental determination, no assertion, consequently no true-or-false quality. Inference implies a stand taken, a mental posture of assertion or denial, consequently something that may or may not be true. Suggestion adds nothing to our knowledge; it merely flings in one more item in the mad, seething, irresponsible flood of consciousness. Inference is cognitive; it makes a fresh and real contribution to our stock of knowledge.

But with all its excellence relation is too general for a logical criterion. It includes logical thinking and much more. Indeed it is questionable whether any sort of mental activity whatever can be mentioned which does not involve relations.

As for Baldwin's third criterion, subject-object dualism, that also is too broad in one sense, but in another sense too narrow. Once this dualism has arisen in consciousness it is present in substantially all mental activities; it is not limited to logical thinking. In that respect it is too general for a logical criterion. But from another point of view it is too narrow. It is a blanket which spreads away beyond the sleeper on one side and fails to cover him on the other side. In the history of mental development logical thinking begins earlier than clear recognition of "I" and "That." A child thinks truly and clearly about many things before he clearly distinguishes himself as a thinking subject. Just when subject-object dualism distinctly arises in consciousness is one of the most delicate and difficult problems in psychology. That fact alone condemns it as a logical criterion. A criterion ought to be plainer, more obvious, than that of which it is a mark. But here the contrary is true; we can discover logical thinking easier than we can determine the presence in consciousness of the dualism of subject and object.

It is interesting to note that Mansel regards subject-object dualism as a mark, not of logical, but of *psychological* judgment.

"Every operation of thought is a judgment in the psychological sense of the term, but the psychological judgment must not be confounded with the logical. The former is the judgment of a relation

between the conscious subject and the immediate object of consciousness; the latter is the relation which two objects of thought bear to each other." (*Prolegomena Logica*, pp. 54-55.)

Mansel is more hopelessly wrong than Baldwin. In common with the old logicians generally, he has in mind only modern adults, people like himself, in whom subject-object dualism has been long established. With such thinkers in mind he can well believe that each thought is accompanied by subject-object dualism, but for that very reason it is a bit of perverted ingenuity to set up that dualism as a distinction between logical and psychological judgment. His distinction is futile and needless for another reason. Judgment is one, not two. The psychologist may indeed ignore its logical function, viewing it exclusively from his special angle as part of the whole stream of psychic life which it is his business to describe; but that change of viewpoint does not change the thing viewed. Judgment is the same thing all the time, though one man may treat it psychologically and another handle it with a clear logical aim and method.

Mansel's logic, like all traditional logic, is a cross-section of logic in its latest stage only—a distorted cross-section at that. It is bound to be distorted because it misses the historical threads of logical evolution. Fully to comprehend the present we must always dig down into its antecedents. Baldwin's more rational method is that of a longitudinal section of logic, or at least a series of cross-sections at critical points of its evolutionary career. Fundamental conceptions of logic are radically modified in the light of this method. It goes far to modernize logic. Baldwin's *Genetic Logic* is a rich treasure-house of suggestions in the very line of progress which we consider most hopeful and fruitful for logical science.

Two additional marks of what is logical may be named, though, like those already mentioned, neither of them can be accepted as the single ultimate criterion. A very distinctive characteristic of normal logic is its cognitive efficiency. Judgments and inferences are the chief means of advancing in knowledge. We *know* that the day is windy when we see through the window waving branches of trees, though in the closed room we do not feel the wind. We *know that* the cat is somewhere about when we hear mewing in the dark. A constant relation would fail, cosmic order would be outraged, if that feline voice turned out to be produced by a puppy. This cognitive mark assumes special significance by contrast with the cognitive imbecility of syllogistic logic. Syllogisms add nothing to our knowledge; neither do the old immediate inferences. It is, however, true that judgments and inferences are not the only means of advancing knowledge. Hence cognitive efficiency is not the ultimate logical

criterion. It is a real mark of what is logical in the sense of that term for which we are contending, but it is not an exclusive mark.

Whenever thought becomes inferential it is logical. Smoke rises vertically and we expect fair weather. Our thought is inferential and therefore logical. But the trouble about this is that logicians do not agree as to what is an inference. For us inferential quality of thought is the best possible mark of what is logical, because we accept spontaneous dyad inferences as sound logical elements. But other logicians would enter a protest. Furthermore this mark fails of completeness. What it includes is verily logical, but it does not include all that is logical. Simple judgments are logical though not inferential.

On the whole it seems difficult, if not impossible, to hit upon any single infallible logical criterion. Now when the very best is unattainable, we must perforce be content with the next best. In the present case the next best would seem to be a *combination* of the best available single marks of what is logical. Logical thinking is based on constant relations, inspires belief, has true-or-false quality, advances knowledge, is orderly, coherent, harmonious with the environment. The concurrence of these marks constitutes a fairly reliable logical criterion, a criterion so obvious in its general trend that mankind at large has reached a pretty definite conclusion as to what is logical.

III. LOGIC AND ITS NEIGHBORS

Psychology is next neighbor to logic on one side, and epistemology on the other side. Since we have not found any absolute logical criterion, it goes without saying that we shall not be able to draw any hard-and-fast line between logic and its neighbors. Epistemology is the theory of knowledge, but logic also is cognitive. Both, therefore, involve the theory of knowledge, but with this difference: logic, like the other sciences, takes the possibility of knowledge as a postulate, while epistemology raises the fundamental question, How can we know anything at all? Logic takes it for granted that we can and do know things, and goes on from that postulate to trace the progress of knowledge and the organization of common knowledge into a system worthy of the name of science. In that sense it is a theory of knowledge and involves an epistemological element.

It also involves psychological elements in the sense that it handles much of the same matter as psychology. Both deal with mental activities, but with a different aim, and a different method. Psychology is broadly descriptive, logic primarily functional, just as anatomy describes the bodily members while physiology is concerned with their functions. Judgment and inference are the special functions

characteristic of logic. They serve in a general way to characterize it, but though distinctive they are not absolute and exclusive distinctions. Both judgment and inference touch upon the theory of knowledge, and both of them may be treated psychologically. Thus at every turn we are baffled in the attempt to delimit logic with severe strictness. In fact ordinary thinking—still more primitive thought—is all very much of a piece, undifferentiated by those sharp distinctions erected by modern analysis.

A short cut, an easy method, albeit an arbitrary and unfair method, of delimiting logic, is to label everything psychological that has about it any shadow of doubt. In the minds of symbolists and logicians of the old school, that will be the fate of our direct interpretations of the environment. A bare glance at the actual genesis and subsequent course of logical evolution ought to be an effective rebuke to that shorthand method. The cosmos itself is logical, and minds, both brute and human, evolved under the steady pressure of cosmic order, naturally contain the essential elements of logic *ab initio*.

The fact that we are not able to delimit logic with sharply defined boundary lines need not distress us, for that is the actual status of all sciences, and of subordinate groups within each science. It was only the pre-Darwinian naturalists who had the privilege of dealing with immutable species bounded by absolute distinctions. Darwin opened the floodgates and set everything adrift. Your modern biologist is content with *types*. The high light on the type shades off into a penumbral zone overlapping the penumbra of the next neighbor. So it is with logic. The logical type is inference, but it shades off into judgments and concepts, and these may, of course, be treated psychologically.

There is one consideration which goes far to justify the old claim of logic to be *Scientia Scientiarum*. Every science must be developed logically. This brings logic into intimate relations with all of the sciences. But the old claim of logical primacy receives nothing but contempt so long as logic is taken to be traditional syllogistic. To claim that every science must be developed in formal syllogisms would verily deserve contempt. But in sober truth logic is the science of sciences when its real character is recognized as being marked by thinking that is sane, orderly, coherent, and in harmony with the environment. Every science must be developed by that sort of logical thinking.

Another old notion the justice of which depends on whether logic is modernized, is its function as a propædæutic to philosophy. Traditional logic has small claim to that honor, but a rejuvenated logic

may regain the old pedagogic relation to philosophy and metaphysics. That a sound logical training would be an advantage to philosophers is evident from the fact that some current philosophies would clearly be improved by being more logical. On the other hand, none of them would be improved by being more syllogistic.

Philosophy and metaphysics need the friendly aid of logic more directly than other sciences. According to Professor Hobhouse the very heart of the rational cosmos, "the ultimate justification of thought and experience," is to be found "in its character as a coherent system, a whole in which the diverse parts support and necessitate one another." (*Mind in Evolution*, p. 371.) Now the nexus of a "coherent system" is logical. Philosophy and metaphysics which treat of the whole rational cosmos, are, therefore, grounded on logic in a sense more profound than that which requires for them, as for other sciences, logical precision in their development.

IV. STATIC ORDER AND DYNAMIC ORDER

The conception of logic as cosmocentric may be repugnant to some persons on the ground that it seems to them to be a surrender to naturalistic or mechanistic philosophy. Are we not in danger of losing some precious inheritance of humanity by boldly accepting cosmic order as the basis of logic, instead of adhering to the laws of human thinking with all their delicate and exalted refinements? Is it quite safe to abandon the comfortable old anthropocentric home-stead and trust ourselves wholly to cosmic influences?

For the comfort of such persons we may say, in the first place, that the cosmic order on which normal logic builds includes all the refinements of human thinking. Every actual, solid and permanent achievement of mankind, whether in science, philosophy, art, literature, poetry or religion, is part and parcel of cosmic organization. By its cordial recognition of these human elements normal logic becomes strictly neutral as between naturalism and idealism. It is truly a natural system in that it banks on actual conditions, but it gives due weight to each and every one of nature's constituent elements, mental and spiritual as well as material. As a slight hint that it is not likely to foster partiality to naturalistic philosophy, or hostility to idealism, though it is a natural system, it is interesting to note that Baldwin's *Genetic Logic*, a system more akin to normal logic than any other now before the public, ends up with *Pancalism*, the doctrine of the *All Beautiful*. Also it is noteworthy that idealism and naturalism are approximating so nearly that some philosophers would themselves be puzzled to say on which side of the line they belong.

In the second place we may point out the salient fact that the actual organization of the cosmos, apart from its human element, is both mechanical and teleological. There is on the one hand Static Order, orderly arrangement in itself and for its own sake, and on the other hand Dynamic Order, orderly arrangement with reference to specific results. The joint effect of these coexisting and interacting phases of cosmic order is an admirable combination of stability with flexibility. So long as normal logic truly reflects cosmic organization, it is not in any danger of being swamped in mechanism. If it ever hardens into a rigid formalism it will not be by following nature but by ignoring those adaptations which give infinite variety and plasticity to nature's products.

A familiar illustration of fundamental order-types and their modifications to fit them for special conditions, is found in the lateral appendages of vertebrates. The essential elements in the type of a vertebrate limb are these: first one bone, then two bones side by side, then a bunch of small bones, then five bones side by side, and finally five digits. This combination prevails so widely, and is so often realized in animals extremely unlike in other respects, that naturalists have no hesitation in accepting it as a type and describing its elements with all the minuteness and positiveness which belong to the description of real things. It is a real thing, a real norm of cosmic order, a norm which defined the fundamental lines in the pattern of your arm, the eagle's wing, the lion's paw, tracing them out all from the same archetypal model.

But how does nature handle this type? Instead of holding to it as a rigid inflexible pattern, she plays all sorts of tricks with it, spreads it out as a paddle for swimming or a wing for flying; swings a digit about as a thumb for grasping; lops off a digit here or a pair of them there, finally, in the foot of the horse, dropping all but one in the rage for concentration and solidarity. In short nature takes no end of liberties with the general type, treating it as a sort of convenient platform on which to stage her everchanging play of special ends, trimming it down or stretching it out just as the act in hand may require. Thus does nature achieve both stability and flexibility by the constant interplay of static and dynamic order.

We often see the terms *order* and *adaptation* paired off and used as if they were equivalent to static order and dynamic order.⁷ This is inappropriate; it implies a contrast which does not exist, *viz.*, that

⁷ A suggestion for our use of the terms static order and dynamic order is due to Howard C. Warren in his article "Mechanism versus Vitalism," *Phil. Rev.*, XXVII., 6, p. 614. His usage, however, is not exactly the same as ours. He speaks of static and dynamic *harmony*, and he limits the former to physics and chemistry. We consider static order to be universal.

adaptation is, or may be, disorderly. As a matter of fact variations with reference to specific conditions are eminently systematic. Otherwise how could a Cuvier or an Owen reconstruct the whole extinct animal from a single bone? Adaptation is orderly, though its teleological aspect introduces a new conception of order which justifies the distinctive adjunct, *dynamic*. Teleology is broad enough in its meaning to cover the whole field of adaptations, both in biology and in nature at large. We use it in the strict scientific sense to designate actual adaptations to specific conditions. Its use—or abuse—in natural theology is quite another affair.

Teleological relations have a very reliable degree of constancy; judgments and inferences based upon them approach about as near to ideal certainty as human reason can usually attain on any other grounds. Thus the logical value of teleology is twofold; it makes a direct contribution to the number of reliable logical constants, and it serves as a safeguard both of philosophical neutrality and against ultraformalism, a safeguard which is effective so far as nature's wholesome example can be effective. A logic characterized by mechanical rigidity stubbornly persisting in the face of prolific and flexible modifications of order-types, must at any rate forfeit all claim to be a natural system.

Logical constants are, however, for the most part based upon static order. Nearly all, if not all, of our examples already cited would come under that category. The old theologians might indeed see a purpose in the relation, steam—boiling water, but it would be a fanciful purpose like Derham's alleged function of volcanoes as warnings of hell-fire. Static order is first in logical priority and first in importance. It is the solid cornerstone of the logical superstructure.

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A NEW CONTENT COURSE IN PHILOSOPHY¹

I HAVE had some difficulty in devising a title for this paper. I thought at first of calling it "Neo-Positivism," and then it seemed that "Neo-Synthetic Philosophy" would meet the situation better, but further reflection indicated that each was too ambitious. I decided, therefore, to adopt the modest title that has been announced, although some perhaps may object that it is not strictly a content course, while others may deny that it is new, and still others that it is philosophy at all. Both objections and denials are prolific

¹ Read at the meeting of the Western Philosophical Association at the University of Wisconsin, Madison, Wis., April 17, 1920.

within our peculiar field. None the less, since some kind of title was necessary, I selected the one that erred, if at all, on the side of simplicity, rather than on the side of pretentiousness, although I am fully convinced, and I hope you will be too, that the general direction of my thought is both positivistic and synthetic.

For a number of years I have been convinced that an attempt to give a kind of cross-sectional view of the world upon the basis of what the various sciences are furnishing to-day would meet a real need in our college work. Most students who graduate from our colleges know something about a limited number of the sciences. Usually physics, chemistry, and biology, together with psychology and some one or two of the social sciences, constitute their entire scientific programme, and, indeed, they are fortunate if they get all these. But the field of the sciences has grown enormously within the last few years, both in the subjects treated and in the accumulation of material within their respective fields. It is true that some familiarity with the more important results is obtained through introductions to philosophy and kindred subjects, but not a little material in connection with such courses is rather necessarily more or less ancient, so that the students may be fully a lap or two behind current scientific views in the several fields. Of course, rigorous work in metaphysics would put students into touch with the most essential views of present-day scientists, but the number of students in the ordinary college who explore the mysteries of pure metaphysics is deplorably small. Consequently it has seemed to me advisable to introduce students to some fifteen or twenty different sciences so as to develop for them, as I have already indicated, a cross-sectional view of the world as the scientists themselves are presenting it.

I suspect that my thought was led in this direction by a series of lectures given at Columbia University in 1908 by some fifteen or more professors, each presenting his own field and trying to indicate within the limits of an hour or so what were the most assured results, the outstanding principles best attested in that field up to date.² It was an attempt to give within brief compass a comprehensive survey of the truths best substantiated in each of those fields at that time. Then, too, at about the same time, I learned of a new course that was being tried out on the freshmen in the same institution. This was designed as an orienting course. Several professors, representing different departments, gave each a series of eight lectures on his own particular subject, so that the freshmen might get a slight acquaintance with a large number of fields in order to decide rather early in their academic career what subject they would particularly care to specialize in. My own plan, I am very sure, was

² Columbia University, *Lectures on Science, Philosophy, and Art*, 1907-1908.

contained as a germ in these attempts, but the way in which I have developed it is not strictly dependent upon either or both.

When I first began to develop this new course in mind and to reflect upon its requirements, the field seemed too vast, too complicated for any one man to present even in outline. Several years later, however, I began to get acquainted with the little books published by Henry Holt & Co. in the series known as "The Home University Library of Modern Knowledge," and at once I became convinced that here was just the material needed. No opportunity, however, came to put my plan into operation until the present year, when with the accession of an assistant professor to our Hamline Faculty to take the introductory psychology off my hands I felt free to attempt some new work. The course which I have designated "The World of To-Day" is an actual putting into concrete form of the plan meditated for several years.

The course extends throughout the year, but the usual distinction between the inorganic and the organic worlds makes it possible to divide the subject-matter rather nicely according to semesters. At the outset last fall, I spent about three weeks on the little book in this series entitled *An Introduction to Science*, and then passed to a work on *Astronomy*. Ordinarily I have spent about two weeks on a book, but sometimes the material would demand a little more time and occasionally a little less. Since not all in the class had had specific training along the line of the general nature of science, it seemed wise to dwell a little longer upon the first topic. From the work on *Astronomy*, we passed to one on *The Making of the Earth* and then to one on *The New Geography*, another on *Polar Explorations*, and still another on *The Ocean*. Only a few selected topics were stressed from these last three books, such as the action of glaciers, the formation of icebergs in the Antarctic regions, and the general character of the waters of the ocean, its depth and currents, and a little contained in these three books on climate and weather. We then passed to a book on *Chemistry*, selecting the more salient topics, and then to *Matter and Energy*, more particularly the latter topic. This afforded a good opportunity to hark back to some of the material considered in connection with the work on astronomy, such as that which dealt with the "white nebulae," and to connect that with the latest work on radio-active substances. At the beginning of the second semester, I dwelt somewhat longer upon a book entitled *The Origin and Nature of Life*, particularly that part which deals with the colloidal substances, and then took up *Plant Life* and *The Evolution of Plants*. From this point, we turned to a book on *Animal Life* and next to one on *Man*, with special emphasis upon the

development of the latter from the former. Next came a book on *The Principles of Physiology*; then one on *Psychology*, with brief reference to the growth of psychic phenomena parallel with the development of animals from the simple to the more complex; next a glance at a volume on *Psychical Research*, and lastly a hasty sketch of the organization of society. There is no book in the series with the specific title of *Sociology*, but there is some material of this nature in the volume on *Anthropology*. I do not speak quite so positively, perhaps you will note, with reference to these last few topics, because I have not yet given this part of the work, but that is the general programme that I am planning to follow. In connection with these several books, I may add, required readings from parallel works in the library are due each week and there is a written test on the average every two or three weeks. There are also free discussions at practically every class exercise and a final written examination covering the entire work of each semester. Such is the general plan of the course.

And now I want to give briefly several of the thoughts developed in the minds of the class by this method. In the first place, when we follow the lead of the astronomer, we become somewhat acquainted with the tremendous stretches of space which are all aglow and which have been denominated "white nebulae." There is not entire unanimity in the interpretation of these nebulae, but Moore, in the volume on *The Origin and Nature of Life*, suggests that there may be a double process taking place. "The chemist knows," he says, "that at the balancing point a reaction may run in either direction, varying with a slight disturbance towards synthesis or disruption." So, he suggests, "at this enormous temperature, either there is visible before our eyes dissociation of matter into its very first and simplest forms, or, it may be that the available high energy concentration at such a temperature is actually synthesizing and producing from the ether those first steps in the formation of matter." Moore himself inclines to the latter view and maintains that various unstable combinations of electrons are formed there, but that out of the variety of such combinations ultimately here and there actual atoms become fixed, and these have never yet, he maintains, been broken up under laboratory conditions. The atoms of Uranium, he suggests, have never yet reached stability, but are disintegrating, unravelling so to speak, and by their behavior they have let us into a secret of the universe that perhaps we could not have otherwise learned, or at any rate could not have learned so soon as we have.³

In this connection, too, I deal with both the older "nebular hy-

³ Pp. 57-58, 68-104.

pothesis" and the more recent "planetesimal theory," and then, having landed upon the solid earth, I discuss the theories of the process by which the earth has come to have such a crust as we now know, the nature of the interior of the earth, some of the characteristics of earthquakes, and the formation of primary and secondary rocks. I take up next the problem of life, both from the angle of the strict scientific biologists who insist upon the formula *omne vivum e vivo* and of those more speculative biologists who assert that the general evolutionary theory demands the origin of life from the non-living here upon our own planet. At this point I find Moore especially helpful. He calls attention to the chemical principle of valency and insists that there is something similar in the behavior of molecules, particularly those huge aggregations, comparatively speaking, in more or less unstable equilibrium, which are at the basis of those colloidal substances from which living things were born. If we follow him in this view, we are prepared to appreciate the naturalness and simplicity of all early forms of life, and also the closeness of relation between the two generally accepted fields of living things and their cooperation. In this connection, too, I call attention to the many variations in the relations of the animal units to one another, and more especially to the varied relations within the limits of humanity. I dwell somewhat upon the instability of such relations in primitive life and enlarge upon the combinations that have been made of groups into nations only to be resolved back again into the original units, but to be combined again and again, until in these recent years the conception of a World-State has tentatively disclosed itself to our view. All this is easily regarded as parallel with the original tentative character of the early combinations of electrons in the vast nebulae into *quasi* and then ultimately into actual atoms. Temporary instability of combinations seems to have been the rule, but this has been succeeded by stability all along the line, suggesting, perhaps, the ultimate World-State, but that time is not yet.⁴

An immediate application of such a survey as this to the field of thought is very easy. I indicate to the class that just as there have been combinations of electrons into atoms and of molecules into such substances as colloids, all being originally rather temporary but settling down finally into stable relations, so there have been many temporary interpretations of the world. Individual experiences of the world have been combined rather tentatively, but out of the plurality of such interpretations there have come at different stages of social development huge thought-schemes, or philosophies, which have

⁴ Moore, *The Origin and Nature of Life*, pp. 123-158, 188-189.

served their day and generation, and indeed many succeeding generations, in a fairly satisfactory manner. Sooner or later, however, these aggregations of thought have tended to be set aside in favor of new combinations that meet the new, changed conditions better. Every such earlier formulation of thought on a large scale could be regarded as similar to the temporary combinations of electrons into *quasi* atoms, or as similar to the various kinds of colloids that were presumably tentatively formed before chlorophyll was ultimately developed as the basis of plant life. In this connection, too, it has been easy to point out that whatever individuals or peoples are apparently entirely satisfied with a particular thought-combination there we have the so-called conservatives, while those who at least try to make provision for the new material by incorporating it with the old or by modifying the old until it does include the new or, indeed, by making a new world-view out of the new material, whether it includes the old or not, are the more open-minded, progressive people of a community.

Another matter that I consider of no little importance comes out in connection with the little book on *The Evolution of Plants*. In that the principle is clearly enunciated that the more complex a form becomes the less is it likely to vary to meet changed conditions.⁵ In other words, the simpler forms are the more plastic and better able to meet the changed conditions in their particular environment. The whole course of plant evolution shows a kind of zig-zag progression. Certain forms became decidedly complex and well adjusted to the conditions prevailing in a particular period or era, but when some of those great changes came, of which the geologists tell us, the more complex forms tended to disappear, while the simpler were able to become modified along somewhat different lines, and consequently they not only perpetuated themselves but overspread the earth in succession to the earlier complex forms which could not accommodate themselves to the changes. An application to the field of education grows directly out of this. The more highly specialized a man is in his education, the less readily can he meet changed conditions. Of course, ordinarily, the conditions of life are likely to remain fairly constant during the lifetime of any individual, but such a cataclysm as the Great War might seriously interfere with a highly specialized programme.

Parasites, also, proved to be an interesting subject, and one of not a little direct application to present-day social discussions. The term itself is not a popular one, except as a mark of opprobrium in some of the current radical socialist literature. None the less, the

⁵ Scott, *The Evolution of Plants*, pp. 154-155, 229-239.

entire animal world can be regarded as a parasite, dependent as it is upon the vegetable world. Not a few technical parasites, too, seem to serve a useful purpose. For example, the *bacillus radicola* obtains its nourishment from the plant whose roots it inhabits, but at the same time it makes use of the free nitrogen of the atmosphere and thus furnishes rich nitrogenous matter to the plant itself for the production of protoplasm. "This is one of the very few organisms," Farmer says in his book on *Plant Life*, "which can perform this really stupendous task."⁶ I am not developing a brief for the entire genus, nor for all within the limits of the human family often designated as such, but I am suggesting that some of the latter, while apparently only parasites, may actually make valuable contributions to our exceedingly complex social life.

As a final illustration of the possibilities in a course of this sort, I will submit the following: When we view the developing animal world from the amœba up to man, we may fasten our attention upon the nervous system, rather than upon the gross physical structure. Beginning in a very simple form in the hydra, it becomes more and more complex until the human brain is reached. This would seem to be the most valuable product of what we call the natural processes. Perhaps Nature herself, with the soft pedal upon the apparent personification, has reached her limit in this, her offspring. Think for a moment of the transformations which the universe has undergone from the nebulae to the brain of man! But while Nature herself, following her usual course, may have reached her limit in the physical constitution of the human brain, the permutations and combinations of the neurones which make up that brain are practically infinite, suggesting almost infinite further modifications of Nature herself. In other words, we may say that the brain of man, brought forth from the womb of Nature, is an instrument by which Nature, having reached her limit by earlier methods, may continue to transform herself beyond almost any limits which we may at present assign. I know of no more inspiring thought than this at present to set before the minds of bright college men and women. If they learn to use their minds properly, they can cooperate with Nature in manifold transformations of the world in which we live; transformations, indeed, beyond anything, perhaps, of which we yet have dreamed.

Such, then, very sketchily, is the course. An objection that might readily arise, in addition to the one already partly met as to the source of the material, is that no man can make himself sufficiently familiar with all this vast field to guide students through it judi-

ciously. My reply would be that those of us who teach the history of philosophy have a still vaster field to deal with. If we can make ourselves fairly familiar with the main outlines of Aristotle's metaphysics and of his various individual sciences; if we can follow through the intricacies of Plato's thought, deal adequately with the Stoics, Plotinus, and the Schoolmen; and if we can then wrestle at all successfully with Spinoza, Leibniz, Kant, Fichte, Schelling, and Hegel, to say nothing of more recent writers, we certainly ought to be able to follow any or all of the modern scientists, especially when their views are condensed severally, as in the Holt series, within the limits of 250 small duodecimo pages.

I might add, in closing, that I am planning a companion course for this one to be given next year. This aims to give a philosophic survey of what the human spirit has produced. It will deal with primitive life, both savage and barbarous, and with early and later civilizations. Modes of life, inventions, beliefs, forms of government and economic activities, art, literature, philosophy, and various contributions to modern life are some of the topics that will be treated as elaborately as time will permit. Much of our work in college is very fragmentary. Detailed studies of very limited fields are made and the student is expected to put together these *dissecta membra* into an illuminated and inspiring view of the world as a whole. The theory, within certain limits, is good, but there are not a few graduates who never "see the woods for the trees." The philosopher's function is largely to use the telescope, but not on a vacuum. In so far as he can make use, descriptively and appreciatively, of the results of the many sciences, both physical and social, and synthesize these into broad, helpful interpretations of the world as it is at the present day, will he more and more justify his position on a college faculty.

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REVIEWS AND ABSTRACTS OF LITERATURE

Problems of Science and Philosophy: Volume II. of the Papers of the Aristotelian Society for 1919. Pp. 220.

To the man on the street the word science connotes a laboratory crowded with glass and with brass, monstrous implements for exact measurement, flasks and retorts and balances, graphs and outlines and all the other paraphernalia of the trade. And one suspects that the man in the seminar has not a very different conception of this term which is said to give its individuality to our century. Science and experimentalism; they are taken to mean very much the

same thing. Those who define the word in this way are wont to overlook the all-important contributions of the "theorists," the determining influence which some sudden *aperçu* has had in guiding the direction of research, and the mighty "abstractions" which have been the milestones of scientific progress. Problems which are not amenable to treatment in the laboratory they will scorn as unscientific if, indeed, they do not deny their reality altogether. Therefore they would be inclined to dismiss such a volume as this collection of papers read before joint sessions of the Aristotelian Society, the British Psychological Society and the Mind Association, with scant attention. Scientific *problems* they may concede certain of these questions to be (though few might admit the third symposium—Can Individual Minds be included in the Mind of God?—into this category) but that scientific *methods* had been employed or scientific *solutions* achieved they would assuredly deny. They might suggest a revised title for the volume—*Problems of Science Maltreated by Philosophy*.

But to those who are less given to dogmatism and who make clear thought and precise investigation the essential prerequisites of science, these discussions will seem worthy of this high title. That is to say, they fully justify the expectations which the previous publications of the Aristotelian Society have aroused.

The first paper in the volume, otherwise given to three symposia, is a contribution by Mr. Bertrand Russell on "Propositions: What They Are and How They Mean." One is aware in reading this paper of how far Mr. Russell has gone in the direction of a psychologized philosophy. Even those who might quarrel with this tendency will concede the acuteness of his critique of one aspect of Behaviorism. And as an Apologia for his drift towards "subjectivism" we are told that "the use of words actually pronounced or written is part of the physical world, but in so far as words obtain their meaning through images, it is impossible to deal adequately with words without introducing psychology and taking account of data obtained by introspection." One is tempted to wonder whether "words" are the only symbols which necessitate the introduction of psychology or whether the next volume of the *Principia* will be based on "data obtained by introspection."

With this irreverent, and, it may be, irrelevant, comment on Mr. Russell's essay we may pass on to mention the symposia which constitute the bulk of the proceedings. But we shall not so easily be avoiding Mr. Russell himself, for in the last symposium we meet him again, albeit this time in his more ancient and austere function of logician. He himself took no part in the discussion of the ques-

tion "Is There Knowledge by Acquaintance?" but his name figures constantly in the argument, whether in Dr. Moore's defense of Russellian doctrine or in the attack in which Dr. G. Dawes Hicks, Miss Beatrice Edgell and Mr. C. D. Broad are allied (or associated). Verily, it's Russell, Russell all the way.

The second symposium, to which the majority of the speakers gave their attention, concerned "Time, Space and Material: Are They, and if so in what Sense, the Ultimate Data of Science?" One can easily see why six speakers should be required to present the various viewpoints implicit in this ancient dispute. But the terms of the argument in this instance are by no means ancient. The disputants may in general be divided into two groups; the defendants of the "older physics" of the other are ranged against the partisans of the new quantum physicists, with Einstein and Relativity as a sort of bugaboo in the background of the discussion. Thus Professor Whitehead presents an account in which "the material ether has disappeared. It is replaced by an ether of events, which is formed of events whose character is expressed by the properties of the electro-magnetic field" and which may surely be said to be no ether at all. Sir Oliver Lodge, on the other hand, insists that "unless the ether is taken into account the scheme of physics is unintelligible," but traces our original apprehension of the data of science to our experience of motion and force in the sense of effort. This observation is concurred in by Mr. J. W. Nicholson when he says that "the actual quantum itself is one of *action*," but in general he is in agreement with Dr. Whitehead. The remaining three contributions to this symposium approach their problems from decidedly different standpoints. Dr. H. Wildon Carr pursues the historical mode of attack, Mr. Henry Head views the question from the standpoint of the physiologist, assuming that "the fabric of philosophy depends on the nature of physiological reactions produced by the impact of physical stimuli on sense organs," while Mrs. Adrian Stephen (Karin Costelloe) treats the problem as a Bergsonian.

An equally various approach to the problem characterizes the contributors to the remaining symposium: "Can individual Minds be included in the Mind of God?" In this discussion the protagonists are really Messrs. Pringle-Pattison and Bradley, neither of whom appears to have been present, for whereas not all of the disputants appear as partisans of one or the other, all find occasion to describe their solutions by explicit reference to these writers. Dean Hastings Rashdall champions the primacy of personality and concludes that "the Absolute—if you must indulge in that 'blessed word'—includes other minds; God, if He is a Mind, does not."

Bishop D'Arcy finds himself in such "complete agreement with Dean Rashdall" that he takes the opposite position, that of Mr. Bradley, though he presents a more "democratic conception of the Absolute." Professor Muirhead advocates a theory of organic relationships and holds that "self-transcendence so far from meaning a sacrifice of individuality is the only way to realize it." Dr. Schiller sees empirical evidence for the possibility of one mind including others in experiments in psychical research, but finds this conclusion objectionable not on intellectual but on moral grounds. And with characteristic and wholesome didacticism he insists that "if a tithe of the ingenuity which has been bestowed upon the deifying of the Whole had been devoted to exploring the possibilities of a divine intelligence more in accord with human nature, philosophic inquiry might have attained results far more considerable and satisfactory."

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An Outline of Abnormal Psychology: JAMES W. BRIDGES. Columbus, Ohio: R. G. Adams & Company, 1919, Pp. 126.

The omission of illustrations and typical cases makes the *Outline* rather dry reading. In fact, no one but a reviewer would ever attempt a consecutive perusal of its pages. Its undoubted usefulness to the beginner, or for directing the increasing number of general students of psychological topics, makes us wish for a brief evaluation of the semi-popular and popular literature that too often constitute the entire sources of information for the majority of readers. The outline and definition form of the text does not lend itself readily to the genetic viewpoint so generally stressed today in the literature. Dr. Bridges's acceptance of the "neurological explanation" as the final one (p. 12), in the present state of such "explanations," naturally conforms best to the disjointed nature of outlines. Though the social worker *et al.* may gain facility in the use of terms, understanding the case and skill in handling it can not arise from "surveys" of this type.

The book is a more comprehensive attempt to introduce orderly arrangement among the data of abnormal psychology than has hitherto been attempted. Such recent efforts at classification as those made by the late Dr. E. E. Southard and Dr. Adolph Meyer indicate that abnormal psychology and psychiatry are feeling the need of better or more thoroughgoing classification of the topics in their fields. We commend the book to those who are giving courses in this field. Other outlines should be published.

A new edition should eliminate a few proofreader's errors.

"Korssakow's psychosis" (p. 94), "Korsakoff's disease" (p. 95), "Korosokoff" (p. 97), and again "Korssakow's psychosis" (p. 102), need a footnote on variations in spelling, at least for the uninitiated.

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JOURNALS AND NEW BOOKS

THE AMERICAN JOURNAL OF PSYCHOLOGY. January 1920. *The Logic of the Normal Law of Error in Mental Measurement* (pp. 1-33): EDWIN G. BORING. - Scientific methods do not sanction the *a priori* determination of the form of curve of distribution. In mental measurements, a psychological unit has not been established, and because intelligence is such a vague term, quantitative terms in mental testing do not have much meaning. The attempt to measure mental activity in terms of physical units always raises the question as to whether the mental activity corresponds to the physical record adopted. There then seems to be little that can be done in psychological measurement in the strict sense because the knowledge of the unknown does not lead us into the known. *Foveal Adaptation of Color* (pp. 34-58): HUBERT SHEPPARD. - The fovea has a longer adaptation time than the peripheral portions of the retina. *The Foster-Child Fantasy* (pp. 59-76): EDMUND S. CONKLIN. - The foster-child fantasy was experienced by twenty-eight per cent. of the 904 cases studied. Suggestion and supposed mistreatment were the most frequent causes of this rather common fantasy. *A Method of Standardizing the Color Value of the Daylight Illumination of an Optics Room* (pp. 77-86): C. E. FERREE, G. RAND and I. A. HAUPT. The colorimetric sensitivity of photometer heads was found to run in the following order: Lummer-Brodhun, contrast type; Lummer-Brodhun, disappearance type; The Bunsen. *Minor Studies from the Psychological Laboratory of Cornell University. Size vs. Intensity as a Determinant of Attention* (pp. 87-90): ALMA M. BOWMAN. - Size bears a ratio to intensity of 3:1 to 4:3. *The Tonoscope as a Means for Registering Combination Tones* (pp. 91-93): EVELYN GOUGH and GENEVIEVE ROBINSON. - The Seashore tonoscope furnishes a meritorious means of demonstrating difference tones. *Book Reviews* (pp. 94-96): G. H. PARKER, *The elementary nervous system*; L. A. FIELD. Honorario F. Delgado, *El Psicoanalisis*; PHYLLIS BLANCHARD. *Book Notes* (pp. 97-100): Carl Emil Seashore, *The psychology of musical talent*. Howard C. Warren, *Human psychology*. W. B. Pillsbury, *The psychology of nationality*.

and internationalism. James Winfred Bridges, *An outline of abnormal psychology*. Julius Pikler, *Sinnesphysiologische Untersuchungen*. A. E. Shipley, *The voyage of a Vice-Chancellor*. Joseph A. Leighton, *The field of philosophy*. W. E. Chancellor, *The health of the teacher*. Herbert Woodrow, *Brightness and dullness in children*. Raoul Mourgue, *Etude-Critique sur l'Evolution des Idées Relatives à la Nature des Hallucinations Vraies*. Rufus Steele, *Aces for industry*. Henry G. Hartman, *Æsthetics: A critical theory of art*. Christian D. Larson, *Business inspirations*. *Proceedings of the American Medico-Psychological Society*. J. W. Fewkes, *Prehistoric villages, castles, and towers of Southwestern Colorado*. William H. Holmes, *Handbook of aboriginal American antiquities*.

Radhakrishnan, S. *The Reign of Religion in Contemporary Philosophy*. London: Macmillan & Co. 1920. Pp. x + 467. 12/-.
 Schofield, A. T. *Modern Spiritism: Its Science and Religion*. Philadelphia: P. Blakiston's Son & Co. 1920. Pp. x + 260. \$1.50.

NOTES AND NEWS

Friends of philosophy and the humanities will welcome Vol. 4 of the *Annales de l'Institut Supérieur de Philosophie* of the University of Louvain. It begins with the following short preface:

"The tragic fate of this city of learning and of science has startled the world. Everywhere there has been a great wave of sympathy, upon the support of which we must count for the aid indispensable to our rebuilding. The University of Louvain, however, is already coming back to life. It is at work with the few tools which escaped destruction and in the few buildings that were spared by the fire. The present volume is evidence of this labor. Among the studies here brought together one only, No. 5, was ready for the press in July 1914. Some of the others are the result of the leisure made unavoidable by the occupation. But most of them are the fruit of our new activity. The studies in experimental psychology, which were one of the interesting features of the preceding volumes, will not be found in this one. The psychological laboratory was plundered by the German troops the day before the armistice, and many papers were stolen or burned. It has taken a long time to recover from this disaster. At present new studies are under way, the results of which can be presented to the public in a short time."

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE BASIS OF HUMAN ASSOCIATION

A SOCIETY is not formed whenever a number of human individuals under the promptings of the same impulse engage together in the same pursuit. The pangs of hunger might cause several men to go in company to the same place and there simultaneously to search for food. They might furthermore be associating, but the fact that they were impelled by the same instinct to engage in the same activity on the same spot would not prove that they were doing so.

Nor does the division of labor with exchange of products constitute genuine association. It would perhaps be impossible to imagine how an industrial system like this could exist without true association, if we were not acquainted with such remarkable coordinations of activity through pure instinct as the ant colony exemplifies.

The reciprocal activities originating in the sex and gregarious instincts do not of themselves constitute a true society. To be sure, these acts have other agents as their objective; their continuous give and take assembles individuals in families or herds. But the other individuals whose appearance, position and movement call forth these activities are objects as external in their way as trees and rocks and rivers.

The semblance of social and political authority may even be exercised and obeyed without really associating the individuals involved. The adult males, or one of them, by virtue of sexual or parental relations or through the operation of the instincts of leadership and subjection, may exercise a control through their undisputed initiative and power to punish which gives a group the aspect of a governed society. But sheep follow a leader, and the functions of government and control in the seal rookery are energetically if boisterously exercised by the adult males.

The basis of community is *communication*. But this statement must appear inexcusably trite unless a definite meaning can be given to communication capable of illuminating actual relationships. Let us suppose that two men set about to perform together a compara-

tively simple task, such as building a lodge which will give them shelter for a season's hunting. They first talk over their plans: each communicates his ideas to the other. The conditions of such communication are that each puts his ideas and preferences into forms of speech; he gives them objectivity by setting them in the wider relationships characteristic of human experience generally; this of itself imparts new meaning to them. The suggestions which each receives from his fellow convey to him not merely the meaning originally intended but that meaning interpreted in the light of his own experience and with this interpretation having for him perchance an added interest and significance which they did not possess in the mind in which they originated. This added suggestion or modified meaning he makes explicit by the aid of speech and tells it to his fellow. In the meantime his ideas previously expressed come back to him reinterpreted in the light of the other's experience and outlook. So the discussion proceeds with the result that new ideas take form which assimilate elements of value and relevancy to the present situation from the experience of each and which, because they have won the assent of both, yield a plan upon which the two can together agree. This is *discussion*.

Then they set about each in his own way to carry out the common plan. Each uses his own initiative in choosing the sequence of acts that promises most expeditiously to advance the undertaking. But each acts in the presence of the other, seeing his fellow adopt a different method of accomplishing the same result. Possibly he doubts the effectiveness of his fellow's method as compared with his own, and expresses his doubt by a question. His co-worker explains and defends his own way of working; he perhaps criticizes it, with the result that his fellow modifies his own method of operation. The result is that both change their ways of working so that while each follows a difference and original line, the activity of the two is correlated with reference to an identical end. This is *cooperation*.

Together they complete the work; their plan is carried out; the hunting lodge is built and ready to be used as was intended. Each feels the satisfaction of successful accomplishment, of realizing through his own activity an end which he had previously projected in thought and whose existence he had at that time willed. This satisfaction he expresses upon his face, or by laugh or exclamation. He perceives the same signs of emotion in his comrade. Since these have to his knowledge the same source as his own, they acquire a personal meaning for him and enhance his own satisfaction. The two companions are united in feeling not because they happen to be pleased or joyful at the same time but because the satisfaction of

both has source in a common personal achievement. This, the rational meaning of their common satisfaction, they seek to express in song or dance in which they join together or in some form of triumphal decoration with which they emblazon the walls of their lodge. This is concord of emotion.

As shown by this example personal communication in the concrete means discussion, cooperation and concordant emotion. Let us consider each of these activities in turn, discovering if we can what feature it is, possessed by them all, which makes them true modes of human association. In discussion the medium of transmission is language; the material communicated consists of ideas, objects, that is, of conscious intelligence. These ideal objects are constituted of qualities and relations which intelligence has selected from the medley of perception and to which it clings in the changing flux of sensory experience. Such qualities, once distinguished become the abiding characters which sense-experience with its ceaseless change and endless variety is expected to show. They are, therefore, *universals*, attributes common to the various experiences of the same individual. These universals constituting as they do the meaning of experience may be shared, for, by an inherent necessity, intelligence assumes that the qualities which it discriminates in the flux of perceptual experience will be recognized by other individuals who observe under identical conditions. (This social implication of the universality of meanings is of course explicitly present when the object is first pointed out to the individual by name). As men associate, this world of common meanings, a social sphere, supplants the many private worlds of animal sentience which owe such similarity as they possess to the fact that similar instincts guided by similar sense-organs determine the reactions of all human individuals to the same physical environment. In the world of intelligent intercourse objects are formulated in their permanent relations of antecedence and consequence; they are also interpreted in the light of their varied possibilities of further achievement and satisfaction. Uniform causation takes the place of perceived succession; an order of values takes the place of individually anticipated satisfactions. The generally valid correlation of objects brought about through verbal communication is a function of the intelligence common to all men, which preserves its identity in the midst of changing circumstance.

The second mode of association is cooperation. Its essential condition is to be found in the ability of the human individual to realize purposes common to the choice of himself and others through the instrumentality of bodily movements freely initiated and controlled. To be sure all objects that have meaning are as such capable of

realization, in the sense of verification, by all intelligent individuals who fulfil the necessary conditions. But logical value is not moral value; all intelligible objects do not have the same practical interest for all individuals. To be adopted as the common purpose of two or more individuals an object must promise some measure of positive satisfaction or practical fulfilment to all concerned. The satisfactoriness of an object is itself measured by the range or variety of agreeable activities to which it opens the way. Such evaluation of objects according to comprehensiveness of character is assumed to hold for all human individuals and affords ground for a conscious agreement in purpose among men. Objects whose value is generally agreed upon may be such as to make their appeal to instinctive cravings for food, shelter, security, *etc.*, or to strictly social interests as those in education or recreation, or religious observance. Without community of purpose there can be no cooperation since its essence is to enlist the inventive activities of individuals in the attainment of generally understood and commonly desired results. If a man purposes simply to acquire wealth that he may use for his private enjoyment, he can not expect the cooperation of his fellows in its acquisition unless he promises them an ulterior reward in the shape of wages to be used for their private satisfactions, and at best this produces but a poor imitation of genuine cooperation. But if the industry planned and initiated by one individual is organized and directed so as to meet general human needs and this is understood by his fellows he may expect them to assist in the spirit of true cooperation. Within the limits of the common purpose which is the basis of true cooperation there is room for competition in efficiency between individuals and abundant incentive is furnished for the exercise of initiative and the display of originality.

Emotional concord becomes a form of personal communication when it springs from a source that is mutually understood by the participants. Thus it is more than sympathy as this is usually defined (an instinctive reaction to the visible signs of another's pleasure or pain). Perhaps the first and fundamental instance of emotional concord as true association is furnished by friendship or love. Here mutual acquaintance and admiration give meaning to looks, words and gestures which by their interchange serve to express and augment, in cumulative fashion, the satisfaction each feels in the character and presence of the other. This form of communication, depending as it does upon visible and audible manifestations of uniquely individual although generally intelligible satisfactions, attains highest development in the appreciation of beauty. Beautiful objects whether of nature or of art make possible an emotional con-

cord more far-reaching among men than the facial expressions or gestures of individuals; they do this because their meaning searches more profoundly the depths of our common human experience.

We are now prepared to understand the basis of human association. It is personal communication carried on through discussion, cooperation and emotional concord. Discussion is made possible by the fact that the ends which men choose among are generally intelligible. An end is a permanent possibility of realization for a subject or self; such a self is essentially social, for it maintains its personal identity by opposing to the shifting play of animal sentience an order of definable objects that is assumed to be real for all other selves as well. Cooperation depends upon the fact that the satisfaction which human individuals seek from the realization of objects as ends is a function of their comprehensiveness and this, since it is based upon their intelligible character, is assumed to hold for all men equally. The possibility of an agreement in purpose among men is therefore created, an agreement which is favored by the fact that the more comprehensive ends are those which include in their scope the interests of others as well as the self. Emotional concord is made possible by the fact that the feelings which accompany, and result from, human action spring from the pursuit of commonly intelligible ends concerning whose value there is general agreement. The "kingdom of ends" is by nature a social kingdom; the single self in pursuit of an intelligently considered and deliberately chosen end involves the society of selves participating in the realization of common ends. Personal communication as a process has three essential characteristics: first, it is governed by ends that are social and imply the community of selves; second, it gives fullest opportunity for the exercise of individual initiative and inventiveness in the attainment of ends whose value is generally appreciated; and, third, it insures from the intercourse of free persons the discovery of new values in the discharge of our common social task.

Understanding then that the basis of human association is found in the community of ends which govern the conduct of human individuals, it is important to see how the various instincts natural to man afford the occasion and incentive for exchange of ideas, team-play in action, and fellow-feeling. A good single illustration of this is furnished by the social meal. The cause and occasion for this social observance is of course the appeasing of hunger. But its social significance and value lie in the encouragement which it gives to continuous conversation and a lively interchange of ideas with a glow of mutually intelligible satisfaction. When as often in primitive society the meal is the outcome and climax of the successful

hunt, these features are more strikingly exemplified, although to be sure the mental give-and-take may not be on so high a level of intelligence.

The group of instincts at the root of our industrial and economic activities, the instincts of individual self-preservation, of food, of property, *etc.*, afford occasion in their exercise for much genuinely social experience, predominantly cooperative in character. The comradeship of the hunting party and the warrior band are celebrated in song and legend. The personal qualities developed are those of bravery and loyalty. The strictly industrial pursuits, carried on at first mainly by women, encourage comradeship of a more passive but enduring sort, the fellowship of those who together discharge monotonous tasks sustained by the thought of future benefits to accrue from their labor. This cooperation is frequently limited to the family circle and the qualities developed are those of mutual helpfulness, perserverance and thrift. The division of labor and specialization of industry call out a new and more intensive form of cooperation, that between fellow-craftsmen in the common workshop, presupposing a certain degree of technical skill and of special knowledge with all, and giving opportunity for the exercise of originality under the inspiration of others' example, and the guidance of an established and authoritative technique.

The instincts in which political organization originated, the gregarious instinct and that of race-survival, the instinct of leadership and that of subjection, have in their special way encouraged genuine association. In this case the community has been principally one of ideas; the state rests primarily upon mutual understanding. Of course when the body-politic was identical with the hunting pack or with the enlarged family its social values could not be distinguished from those evoked by the reproductive or the food instincts. Certainly cooperation has always played a part in the political relationship. But the distinctively political sphere has always been that of counsel; foreshadowed by the deliberations of chiefs and elders in the primitive tribe, for long obscured by the overdevelopment of authority, discussion has been generally acknowledged as the basis of democratic government.

Through the action of the sexual and parental instincts in establishing and maintaining the family another field is created for personal association. Here the community is to a greater extent one of feeling; it is the mutually recognized satisfaction which each of the two participants feel in the other's appearance and characteristics that distinguishes conjugal love from mere sex attraction. This mutual satisfaction receives objective embodiment in the existence

and growth of the child which as the product of their union forms an enduring tie between the father and mother. The continuous and close association of the family circle gives opportunity for the exchange of ideas while the reciprocal physical differences between man and woman, parents and child, encourages mutual helpfulness. The human individual first achieves common understanding as a child in company with his parents and brothers and sisters. As he grows older he enters into real cooperation with the members of his family, a cooperation that may become very thorough-going and very helpful.

It is noteworthy that the activities through which the principal natural instincts (with the help of intelligence) gain satisfaction may refuse that subordination which is the condition of civilization and may succeed in degrading social relationships into mere means to their own gratification. Thus in industrial activities persons, as well as inanimate things and natural forces, may be employed as instrumentalities for the securing of individual comfort and pleasure. The exigencies of political organization may be seized by individuals and utilized as opportunities for increasing their own power and prestige. The attractions of sex may prompt individuals to turn other persons into sources of sensual enjoyment. Society is in constant danger of relapsing into animalism through a reversal of the true order of primacy between the natural and the social.

To one who considers the social values that may thus be given to purely instinctive activities the question inevitably occurs, may we not make personal communication our exclusive aim instead of waiting to avail ourselves of the opportunities offered by the routine of natural existence. This we do in fact attempt when we seek to realize the "ideals" of truth and goodness and beauty. These ideals all propose an association wider than that limited by the circumstances of personal presence and acquaintance; each implies in its way the establishment of the "perfect society," the community of free persons to membership in which every human being may aspire. But since the association here contemplated is usually carried on (as when the medium is literature or art) with individuals physically and temporally remote, we may call it indirect communication, inasmuch as the relation established while essentially a personal one, does not involve personal intercourse in the usual understanding of the phrase.

To seek and to discover truth is to increase our common understanding with humanity and to enlarge our experience so as to admit the facts experienced by all other men (ideally of course to include all the facts open to possible human experience). This is a familiar

form of statement; its very familiarity prevents an appreciation of the significance and wonder of the fact it expresses. We lament the limitations of the human lot, the shortness of man's natural life and the defects of his native endowment. But do we appreciate the marvellous power that our intelligence gives us as individuals of recreating the universe and of recapitulating the history of this planet and its successive forms of life, within the limits of our own consciousness? Through the instrumentality of oral tradition and of scientific and historical writings we share the experiences of other men in many different places both near and remote, and of all times, from our own to the far distant past. These experiences have been correlated in accordance with laws that express the conditions of general intelligibility; they have been purged of all exclusive subjectivity and converted into objective facts. Through a realizing study which reinterprets them in the light of his own experience, the individual enters into communion with the spirit of humanity and shares in the vicissitudes of its lengthy and checkered career. The full possibilities of intellectual communication are realized when the individual by thought and investigation renders certain of his experiences that are unique and significant into terms that are generally intelligible and thus makes them accessible to his fellows of his own and future generations.

The industrial methods and mechanical inventions, the political, economic and social institutions to which each human generation falls heir represent the outcome of past efforts of mankind to subject the physical and vital forces of its environment to intelligent control. The individual who learns to employ these agencies and accompanies his practise with an intelligent insight into the arms and conditions of their use, enters into cooperation with the successive generations of his fellows who have employed, improved, and perfected them. Actually he is admitted into the larger human comradeship, becoming a fellow-worker with humanity in the discharge of its world-task. He participates in the arduous efforts and final successes of those inventors and reformers who have striven and suffered in the endeavor to subject natural forces to the purposes and ends of intelligent personality. This cooperation is rendered complete if the individual by applying his own inventive skill to the solution of economic and political problems is able to bring about some improvement in existing methods of operation in any one of the fields of human action.

Æsthetic appreciation is akin to the satisfaction which crowns successful endeavor, since it springs from a complete if temporary identification of the will of the subject with the beautiful. But the

social value of art lies in its power of communicating to the individual the experiences of other men far removed from him in space and time, not the facts their intelligence has verified nor the practical expedients they have found useful, but those personal impressions of fulfilment or frustration which register themselves in emotion. Such impressions are communicable because universally intelligible; they are personal interpretations. The media are of course form and color, tone and rhythm, but their æsthetic value depends upon the deeper human meaning they convey.

While acquisition of knowledge, participation in organized economic and political activities, and appreciation of beauty in nature and in art, do introduce us into wider human relationships, the association thus established falls short in important respects, when compared with direct personal communication. It can not be denied that one may enter into genuine communication with an author through study of his writings, with an artist through appreciation of his works, with a political reformer through support of the measures he inaugurated. But such association is after all indirect and suffers marked disadvantages therefrom; the direct give-and-take of personal intercourse with its stimulating and fructifying power is entirely absent—the passing inspiration struggling to express itself, the flash of immediate understanding and response, the momentary fusion of two minds in the origination of a new and fruitful idea. A higher social synthesis is therefore indicated, in which persons possessed of thorough scientific and historical knowledge, trained in the use of established industrial methods and socio-political institutions and capable of taking disinterested pleasure in objects which reflect the significance of common human experience, profit by the vitalizing influence and creative stimulus of direct personal contact. In such case the individuals associated are able to interpret and illuminate the experiences which they exchange by relating them to the larger life and progressive achievement of humanity.

Clearly such association as that just described is the ideal of civilized democracy. But just as clearly it is impossible of realization in the modern nation-state. The foundation of social union, no matter how many individuals are involved, is of course personal communication. The emphasis placed by recent writers upon this point is indeed well-timed. Moreover, by means of education, vocational training, *etc.*, this association should be made as intelligent, effective and satisfying as it can possibly be. But it is at best of narrow scope where a hundred million people are concerned. Personal contact is limited for the most part to those who reside in the same locality; it should of course be well-developed among those entrusted

with administering identical or closely related branches of government; it is highly desirable although not always practicable between the residents of any district and their chosen representatives. Beyond these limits communication must be indirect—through newspapers and periodicals, industrial processes, social conventions and political machinery. Such communication can create social unity only if its processes relate themselves to a common historic background which gives authority and a measure of justification to the existing economic and political systems and at the same time suggests an ideal to guide in their reconstruction. The importance of indirect communication as a stabilizing factor in modern society deserves more recognition; it is our chief protection against excesses of local enthusiasm, against the extravagancies of closely communicating groups who are swept off their feet by new ideas or programmes engendered in the course of their own discussions.

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THE LOCUS OF TELEOLOGY IN A MECHANISTIC UNIVERSE

IT is a cause of very great regret to me that I can not meet Professor Holt on his own ground.¹ The question of the correct use of concepts which he has raised is no doubt important in itself and most interesting to the readers of this JOURNAL. But it is not for me to undertake a discussion for which I am so little skilled, since, if I am not wrong, Holt's criticism of my work can be met without passing beyond the field of science. The truth seems to be that Holt has certain very definite faults to find with the teleological conclusion which I have reached, and that he has associated these as illustrations with a larger logical criticism of the structure of knowledge. He comes at length to a result which I can only think a counsel of perfection far beyond the present powers of men of science, and also, if I have read them rightly, of most philosophers. Yet this is no affair of mine.

The two books² which seem to Professor Holt so full of bad reasoning describe what I believe to be a scientific fact. This description has involved not only a large amount of scientific material but also, perhaps needlessly, a small amount of philosophical argument. The philosophical argument is, however, almost though not quite entirely

¹ Cf. this JOURNAL, Vol. XVII., pp. 365-381.

² *The Fitness of the Environment*, New York, 1913; *The Order of Nature*, Cambridge, Mass., 1917.

of secondary importance. Both the scientific and the philosophical portions of the books are set forth in words—not, I will maintain, in concepts—of a certain vagueness. Holt believes that this vagueness involves real fallacies which have seriously misled me. I can but admit, with his paper before me, that it has seriously misled him. For this the fault is perhaps partly mine, but, as I hope to show, certainly partly his. Such errors are made worse, according to Holt, by one cardinal fallacy with which we may begin our examination of the question. Briefly, my critic believes that the teleological conclusion of my books is the result of a preliminary selection of three elements by me.

I

When the properties of the chemical elements are carefully studied, it is easy to see that the elements differ widely and in such a way that their exact description as a system is very difficult. Nevertheless valid approximate descriptions are not hard to find. One such description is well known as the periodic classification. Another approximate description, which puts the emphasis upon compounds rather than simple substances, is given by the statement that the properties of hydrogen, carbon and oxygen are unique. Evidently such a statement is meaningless unless the use of the word unique is defined, for of course all elements are unique. This, together with other logical considerations of the concept unique, is one of the specifications of Holt's criticism. The fact is, however, that the use of the word unique here in question is fully defined by illustrations of every sense in which it is employed, and that it is never in my writings used to imply anything but its clearly stated content. For example, the heat of formation of water is the highest heat of formation of any compound from the elements, the solubility of carbon dioxide is such that it distributes itself equally between a liquid water phase and a gas phase, the heat of vaporization of water is the greatest known heat of vaporization, the number and variety of compounds of carbon, hydrogen and oxygen is the greatest among all known substances, oxygen is chemically the most active element, solutions containing carbonic acid and bicarbonates are (other things being equal) the weakest in acidity or alkalinity of any known solutions. In general the properties of these three elements and of their compounds very often fall at singular points (maxima, minima, points of inflection, *etc.*) on the curves representing the properties of all known substances. Thus it is a significant and useful approximation to a description of all the elements to say that the properties of these three are unique, and this statement ought not to lead to any misunderstanding.

Holt, however, declares that I have *selected* these three elements for study and that it is because I have selected them that I find them teleological. For the moment it will suffice to deny this criticism and to insist that my statement is a valid approximation taking account of all elements. Of course I shall raise no objection to the use of any other word rather than unique as a designation of the various singularities whose methodical enumeration is the definition of the sense of the word in my writings.

Thus the first point that I have to make is that the system of all the elements may be correctly characterized by the statement that the properties of hydrogen, carbon and oxygen are unique, when it is understood that the word unique is used to designate such peculiarities as are above mentioned and more fully described in *The Fitness of the Environment* and in *The Order of Nature*.

In studying this question an effort was made to consider all known properties of matter and, though complete success is manifestly impossible, I believe that the analysis has been adequate. Unfortunately this is a question for the specialist, who must be referred to the full discussion.

Professor Holt's argument that teleology appears in my writings because at the outset three elements were selected for consideration seems therefore to be due solely to a misinterpretation of the scientific evidence. In order to justify it he will have to show that this is erroneous or inadequate.

A second point which must now be taken into consideration, but which Holt seems to find unobjectionable, is that Willard Gibbs's characterization of physico-chemical systems is a sufficiently complete and exact description of the conditions of all physico-chemical events, regardless of the peculiarities of such events and especially of the chemical elements which are concerned in them. In other words the variables of Gibbs's mathematical analysis—phases, components, temperature, pressure, concentrations, *etc.*—are the necessary and sufficient variables for the exact characterization of any physico-chemical system, absolutely without regard to the specific properties of whatever substances may make up the system. Of course the particular values of the variables in any case will depend upon the specific properties.

A third and final point remains to be considered. The distribution of properties of the elements, which is approximately summed up in the statement that the properties of hydrogen, carbon and oxygen are unique, constitutes an unmistakable pattern. When this pattern is examined in the light of Gibbs's conclusions it is apparent that almost any sensible change in the pattern affecting almost any

one of the properties of the three elements hydrogen, carbon and oxygen would involve a great restriction upon the possibility of physico-chemical events, because systems must then be less numerous, less varied, or less stable. This is due, first, to the fact that the unique properties of the three elements are often uniquely favorable. Thus the great number of compounds favors number and variety of systems and the chemical activity of oxygen favors activity. Secondly, it is also due to the fact that the properties are important not merely individually, but also jointly in groups. Thus the solubility and acidity of carbon dioxide stabilize chemical conditions in water phases, and the various thermal properties of water coöperate to stabilize physical conditions generally.

Holt, overlooking such instances of coöperation of several factors, in spite of their frequency in my writings, makes much of the fact that when a phenomenon depends on such coöperation of several factors it is by no means true that a singular or unique value in a given factor is necessarily most favorable in the result. Yet he has but to look into my books in order to find examples of this, such as both the physical and the chemical relations between water and carbon dioxide or the chemical relations between carbon, hydrogen and oxygen.

But, indeed, my whole description of the relation of the properties of the three elements to the characteristics of systems is an illustration of the coöperation of factors in a manner so intricate and so varied, involving not merely individual properties that are maxima or minima, but also combinations of properties not themselves maxima or minima, yet nevertheless so related that maxima and minima result, and then combinations of these combinations, that it is a cause of amazement to me that Holt should ever have ventured such a criticism at all. His conclusions seem to me to depend upon a further misconception of the scientific part of my writings.

At all events, every consideration to which Holt refers has been in my mind while discussing the relevant questions, and finds expression at many points in the two books. I am unable to justify this statement except by the reference, for nothing less than the whole scientific analysis of the relation of the properties of the elements to the conditions of physico-chemical activity, stability and diversity is in question. Perhaps, however, an answer to one of Holt's specific criticisms may further illustrate the situation. My critic points out that while I have emphasized the high surface tension of water, that of mercury, as I did not fail to specify, is much higher. This is an example, however, of the phenomena important in systems depending not upon one, but upon two properties in coöperation. Capillary phenomena, in fact, depend upon the ratio of surface tension to

density, and other types of surface phenomena upon surface tension and solubility jointly. Thus what Holt puts down as a defect in the catalogue of properties of water is in reality a simple instance of a relation which elsewhere he accuses me of quite overlooking.

It may appear to the reader that something nevertheless remains of the fact, taken by itself, that the surface tension of water is not a maximum, and it is indeed true that nothing would be easier than consciously or unconsciously to juggle this kind of an argument. In this place I can only say that I have always been aware of this danger and have done my best to point out all qualifications of the uniqueness of a property or of the relation of a property to the characteristics of physico-chemical systems. Such errors of this kind as may exist in my books have at least not been revealed by Holt's criticisms.

The important fact, and the principal scientific conclusion of the two books is that if any one of a large number of properties of carbon, hydrogen and oxygen were not what it is, but resembled that of any other element, the whole time process would be reduced to almost nothing. Without the chemical combining power of carbon for hydrogen, the chemical activity of oxygen, the solvent power of water, or a high heat of formation of water—in case a single one of these or a single one of many other properties or relations between properties were not approximately what it is—the whole evolutionary process would be greatly restricted. What is the explanation of the fact that the properties possessed by these three elements are thus related? At present this question can not be answered; but the facts which suggest it are beyond the reach of the kind of criticism that Professor Holt has written, for they do not depend upon my lack of skill in the use of concepts or of words.

II

In his famous work *Exposition du Système du Monde* Laplace calculated the probability that, as a chance occurrence, the planes of the orbits of all the members of the solar system should be as nearly coincident as they are, and that all the planets and their satellites (so far as they were then known) should rotate and revolve in the same direction and approximately in the same plane. His calculation, hardly indispensable in view of the obvious magnitude of the improbability, led him to the conclusion that there must be some explanation of coincidences so improbable as chance occurrences.

Such a conclusion is entirely acceptable to the man of science. Indeed, one of the most familiar characteristics of scientific method is to seek an explanation or cause for any group of coincidences, or for any pattern, which, regarded as a chance occurrence, is sufficiently

improbable, provided the pattern is unmistakable. Thus the pattern in the solar system discovered by Kepler, and described in his three laws, led to Newton's *Principia*; thus coincidences in the geographical distribution of species to *The Origin of Species*, and Boyle's discovery that the values of $P \times V$ for a gas are coincident to the kinetic theory of gases and of heat.

It is well known that the logical implication of the mathematical theory of probability and even of Darwin's argument concerning the flora and fauna of the Galapagos Islands has not been generally agreed upon. But in spite of the familiar contention that it is idle or meaningless to calculate or to discuss the probability of that which exists, and the equally familiar argument that, according to the postulates of the theory of probability, any sequences of events or any temporal or spatial order is as probable as any other, this habit of the scientist is universal and successful.

Therefore I must once more decline to meet an argument of Professor Holt's. It is certain that I should never succeed in stating this argument from probability so as to satisfy him. And that I am under no obligation to do so seems no less evident. For me probability is still, as Laplace once said, "*le bon sens réduit au calcul.*" Let there be no misunderstanding on one point, however: it is not to the authority of Laplace or of any one else that I appeal, but to experience.

Accordingly the statement may now be made that the relation between the properties of hydrogen, carbon and oxygen and the characteristics of physico-chemical systems is not due to chance, but that there must be a relevant explanation or cause. Just as Laplace calculated the improbability of a certain set of coincidences in the solar system, so the improbability of this set of coincidences might be calculated. But, since the magnitude of the improbability is obvious, this is unnecessary.

At present it seems safe to say that the properties of the elements and the characteristics of systems, like the properties of triangles, are changeless in time. Recent evidence from the study of radium and of electrons, while indicating slight variations in what we call atomic weights, in other respects strongly supports this view. And so far as the atomic weights are concerned what is involved seems to be merely a slight change in a single definition which itself does but strengthen the conclusion.

This is why I have spoken of the *connection* between the properties of the three elements and the characteristics of systems as teleological. If changeless in time it must be in a justifiable sense of the term an absolute property of the universe, and can not be the

result of the only process by which so-called adaptations arise—the time process. It is therefore at present inexplicable, but surely not quite indescribable. For example, it bears some slight resemblance to the internal arrangement of a watch, if I may choose a time dishonored example.

And thus we arrive at the point where Holt and I are in complete agreement. To proceed from this conclusion with the old natural theology, and speak of design and mind behind the teleology, or even to suggest, or however indirectly to imply, design, seems to me, as it does *a fortiori* to Holt, just such a voluntary and irresponsible act as he thinks that I have committed at an early point in my argument.

Here once more I should be quite willing to change the term for another not more misleading than teleology. But the word teleology has always been used in this sense, as well as in several others, and I have found no other word.

The conclusion is this, that teleological pattern has not merely originated out of chaos by adaptation, but that there has always been an underlying teleological order of nature.

III

If it were true that my writings contain some of the statements which Professor Holt attributes to them, much of his criticism would remain valid. In particular, his defense of the mechanistic theory, which must seem well founded to most men of science, would cause me great inconvenience. For here I believe him to be right. But this defense is the result of his assertion that I have declared that certain empirical data “argue a relation between past phenomena and present that is not mechanical.” This statement is an error. I am aware of no such data and can not imagine such an argument. So far as known the physico-chemical universe like the mechanical watch runs mechanistically.

Probably Holt and I agree about what we both clearly understand. But the logical and epistemological concepts which he handles with so much skill are beyond my powers, and the tissue of absurdity which he so readily destroys was not woven by me, nor is it the locus of teleology.

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THE LOGICAL NECESSITY OF A CONSTANT IN THE
CONCEPT OF SPACE

SINCE all things we know can only be experiences of the human mind, the investigation of subjective phenomena can in no way be either aided or restricted by a hypothesis of an external world; since at no point can an element not of experience enter into such an investigation. When such distinctions are used, they serve only to throw emphasis on certain orders of subjective phenomena (and this might be done without such a hypothesis). Hence in this examination of the subjective conditions of space appreciation, I feel justified in avoiding the question as to the external reality of space.

In the consideration of spatial experience there are two distinct fields, psychology and metaphysics. Psychology examines the manner and accompanying circumstances of individual experiences; metaphysics the nature of all such experiences and the logical necessities of spatial appreciation. To assert that the latter is spurious and that space is in the legitimate field of psychology only, would find a parallel in saying that logic is that also, and that the psychology of reasoning should and ultimately will displace formal logic. But it seems obvious that logic and the psychology of reasoning are widely different fields, though both investigate the manner of reasoning. One deals with formal necessities; the other with actual happenings. And it does not affect the logical necessities if in no single instance of successful reasoning the mind passed through the exact stages defined by logic; any more than the fact that there may be not a perfect geometric figure affects the necessity of geometry or its universal applicability in understanding actual figures. Hence, a logical and metaphysical enquiry into the nature of space is legitimate and as necessary for the understanding of subjective spatial phenomena as logic and geometry are in their respective fields.

The nature of the human mind conditions all experience; logic defines and excludes to make understandable. This limiting exclusiveness of logic may be, like the metric system of measurement, without analogy either in things *per se* or the unassociated elements of empirical data. But since things can be understood neither in their entirety nor particularity, it is the place of logic, conscious or otherwise, to exclude, bound, and for the human mind, simplify and partially associate the complex of empirical data. It is in the light of one of these fundamental axioms of thought, or necessities of thinking, that I wish to examine spatial phenomena. This is the necessity of a constant in all thought. With a meter stick that

varies chaotically from a barely visible point to an inconceivable length, distances could not be measured by us. Absolute variability is inconceivable. Some sort of constants are necessary for thought of any kind. For were absolute change perceived or conceived, in the instant of conception it would have become false, and so on indefinitely. And no amount of experience would assist in guessing the next change; since if it did, the change would have been only partial. Nor would any individual perception be a perception of absolute change, since it would be static. A memory of an instant of such perception would not be that of change.

Knowledge is through memory and association; but in a state of absolute change association would be useless. Hence, knowledge would be impossible and anything changing absolutely inconceivable.

Nor would the change, being gradual, but ultimately absolute, affect this. An absolute change must be a displacement and not a growth, since development, no matter how great, implies a constant. Duration applied to absolute change can only mean a series of minute absolute qualitative changes progressively displacing the older order till nothing but the new exists, and hence, the change becomes complete and absolute. But in this case there exists no more means of understanding the new order than if the change were instantaneously complete and absolute. The only constant is simultaneity, which is extrinsic to the quality of objects.

In spite, however, of the obviousness of this, there are followers of the doctrine of relativity who affirm just this sort of thing, saying that: there are many spaces; to talk of one space is meaningless; there is no constant in space.

Thus, asserted absolutely and carried to its ultimate application, the principle of relativity presumes actual space to change with the expansion of a solid; *i. e.*, when a solid expands under certain conditions, it remains spatially the same. But this is obviously absurd, since expansion can only be thought as an addition of space.

Nor can this be affected by the observer's not being able to perceive a small change relatively or a great change absolutely; *i. e.*, equi-proportional change. For perceiving relatively, relativity is an instrument of perception and the shortcomings of this instrument are not intrinsic to the organization of the subjective data as such. That we can not directly perceive a great change if it is equi-proportional, testifies that we have no external, spatially constant, criterion; but it does not at all affect the hypothesis that the subjective conditions of spatial conception necessitate an idea of spatial constancy.

The principle of relativity, asserted relatively, simply states the

relativity of our criteria of magnitudes, not of space itself. For, that there is not a constant does not at all follow from the fact that there is an appearance of quantitative diversity between different systems at rest or in uniform transition. An analogy to this may be found in the variety of appearance an object presents from various points of view or distance. But that this diversity of appearance argues that the object possesses no constant, but varies absolutely with the representation, is generally not held. For under similar determinants a similar impression can be duplicated. Thus with no mention as to the relative truth of each of the different points of view, it is generally asserted that there is a constant determinant of them all.

Hence, to say that there are many spaces, is like asserting that there are as many trees as there are impressions of one tree. Nor is it necessary, as we stated before, either to say whether the constant of the tree impression is external to us, or to say whether the constant of spatial perception is only a subjective condition or is objective.

But, if these different quantitative diversities of space from different systems were taken as discrete elements, or if each possible vision and feeling of the tree were regarded as such, then indeed there would be as many spaces and as many trees as there were ways of perceiving one. But, if this were true, no coordination would exist and hence no knowledge would be possible, as skeptics have so often used this illustration of the trees to prove. For by what criteria could one assert one perception to be truer than another? What knowledge we have of the tree must be through a synthesis of diverse impressions. However, if knowledge is to be granted at all, a constant determinant of some sort must be posited in the case both of the tree and of space.

But regardless of this, one must necessarily conclude from the foregoing that space is not in a different category from the surest elements of our knowledge: for there is a relative diversity in all, except in realms of pure ideality, as mathematics; and even here with irrational numbers and non-Euclidian geometry there are diverse ways of regarding identical phenomena.

Nor can this conclusion be avoided by asserting that space is not a real thing as the tree is; for to call either space or the tree the result of a subjective or of an objective constant is equally possible. As long as the tree is perceived or conceived, so long must it be perceived or conceived spatially. In both there are constant determinants (for us); and for this argument it is of no consequence whether it be thought that in one case the nature of things *per se* is the determinant. For us, space is as real as the tree.

The nature of this spatial constant which is the logical condition of all spatial conception is very difficult to define; especially with non-Euclidean geometry, a geometric invariant is almost impossible of conception. It resolves itself into a mere concept of the unchangeableness of space; a regarding of space as a static order. This of course is very indefinite. But the unsurmountable difficulties of more explicitly conceiving such a space are no greater than those of thus conceiving the constant determinant of the tree impressions.

Granting that the perception of time and space are relative to the velocity of a system from which they are perceived, in what media is another system with different velocity? How is velocity to be conceived with neither space nor time? Without the analysis of space and time velocity is meaningless; and even though the perceptions of space vary with the velocity of the system, the media through which the system moves can not be conceived as not having a spatial, constant, and continuous character. But even if there should be strong evidence that time and space were purely human analyses of a unified reality, yet none the less objective phenomena can be understood only through them.

Thus the theory of relativity, while supposing many spaces rather than many aspects of one, and denying that it can be conceived as a unity, yet must speak of various velocities of various systems, which is absurd with a concept of a continuous, constant space. The unreality of this space is not proved by the fact that no perception is truer than another; any more than that it follows that the constant determinant of the tree perceptions is unreal because no single perception is truer than another.

Stated simply, the basis of this analogy is, that diverse perceptual data must have some legitimate ground of synthesis or knowledge is impossible, and that variation in perceptual data does not necessarily mean variation in central determinants, if there is sufficient unity of character throughout to give the object uniqueness. That this latter qualification includes space is patent, for space is uniquely spatial and can not be confused with other things or qualities.

A constant is a necessity of human understanding. It is the logical condition of any knowledge, and where the constant is not definitely perceived (as in case of the tree and space) the supposition that there is one is unavoidable. The whole relativist point of view when stated absolutely is contrary to the necessities of thought and logic.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Psychology of Nations: A Contribution to the Philosophy of History. G. E. PARTRIDGE. New York: Macmillan Co. 1919. Pp. x + 333.

The title is misleading; for the book falls into three distinct parts: (1) a discussion of various theories of the causes of war from a psychological point of view (Part I.), (2) a discussion of internationalism as an educational problem (Part II., Chs. I.-VII.), (3) a discussion of miscellaneous social problems in their bearing on education. The first part, as just stated, is not a first-hand examination of the causes of wars, but a critique of various theories of war in general. The standpoint of the critique is psychological, and the author's chief interest is not so much in discovering how a war comes about as it is in formulating certain motives which operate in war. The first and obvious answer of the psychologist to the problem of the cause of war is that it is directly instinctive, an element of human biological structure. This biological structure is supposed to be a product of the operation of the law of natural selection. But Mr. Partridge cites a long list of authors who find no relation between natural selection and war. Furthermore there is no evidence that war, even in its primitive form, is an animal trait in man. The origin of war is to be sought rather in a fusion of numerous primitive traits into complex states of consciousness or moods. Or, as the author puts it, "war belongs to history rather than to biology" (p. 8). The search for the causes of war thus takes us not to the romantic past of primitive man and his "struggle for existence," nor even to man's present instinctive nature; it takes us to certain recurrent social situations which generate the "warlike mood." For the instinctive tendencies of man, though they are the ultimate source of all human motive power, "become the warlike mood or produce war . . . only when the intelligence gives to the relations between groups definite intentions and directions, and out of the many impulses that lead to combat, a distinctive motive and mood are derived" (p. 16).

This war-mood is described by the author as essentially a mood of intoxication, an ecstatic mood; a mood in which life bubbles over. A feeling of power and a joy in its exercise become so dominant that all tendencies toward fear, pain and repression are transcended and fused into a "free expression of energy." And this fused mass glows with a light that has its source not in the various instinctive elements of the mood, but in the fact of fusion itself. It is the light of ecstasy, revealing new visions and releasing new forces. It is in

terms of these ecstatic moods that war is to be understood. Following this lead, Mr. Partridge discusses several of the so-called instincts which are prominent in war, such as "the aggressive instinct," fear, hatred, the instinct of combat and the "social instincts," attempting to show how each is susceptible to ecstatic forms and how it is these ecstatic forms which are operating in war. Fear, for instance, is known in extreme forms to produce a state of exaltation leading to great daring and achievement. The gambling mood, prominent in war, is such a state of intoxication arising often in fear and "clearing the way for free and uninhibited action." The joy of fighting and killing is also essentially ecstatic.

With this analysis the psychology of war might be complete. But Mr. Partridge is interested in making this psychological analysis contribute to a philosophy of history. These warlike moods are not to be regarded simply as recurrent moods arising out of recurrent social situations; they are but one phase of "the psychological principles that are at the bottom of all social development" (p. 141). They have a deeper meaning! There follows, accordingly, a loosely organized and superficial discussion of æsthetic, nationalistic, religious, moral, philosophical, economic, political and historical factors in war, the obvious purpose of which is to link up psychology and history, thus introducing the author's psychological philosophy of history. This philosophy is simple and not strikingly novel. It is summarized as follows: "We are always catching sight of a movement in the development of nations and of the world—of certain fundamental motives, the most basic of all, the most general, being the motive of power. . . . Although fortuitous events as causes of war must not be overlooked, war is not continually being made anew by the appearance again and again of accidental situations which are thus to be regarded as the cause of war. . . . Primitive motives and moods of war that we find in the nature of the social group itself, emerge finally in three aspects of the life of nations, and it is these aspects of the life of nations that appear to us as the causes of war. They are not separate and independent features of the social life, and it is in part only for the sake of convenience that they are sharply separated at all. They are all at bottom manifestations of the motive of power that runs through all history, and all the social and individual life. On the one side this motive appears in moods and impulses that we called the 'intoxication' moods and impulses. National honor we found to be another effect of it. The political motives of war are its concrete expression. These motives all together—all being but phases of a deep, powerful energy and purpose—are the source of the main movement in history out of which

war comes. In this movement all the motives of the social life are always present and active at the same time. The good and the bad of national life are phases of a single purpose and are not two contrasted principles or moments. The past is always contained in the present" (pp. 153-154).

The bearing of all this on the present situation is not obvious; for it would seem on the face of it to have no bearings. But the author does make brief application of it to the present situation—an application which is negligible from the point of view of the argument of the first part, but fundamental to the second part, and even more fundamental to an understanding of the author's mind. The life of the nations is nearing the end of adolescence. (This term is not used in the book, it is merely suggested by the author as a useful analogy. The book was written in connection with a seminar by G. Stanley Hall!) That is to say, nations are subjectivistic, highly emotional, influenced by mysticism and frequently ecstatic. They indulge in day dreams of empire and kindred illusions. But the war has put an end to the dreaming of dreams and the playing of plays; the nations are face to face with serious work. "The consciousness of nations contains, it may be, unsuspected powers, suppressed in the past by narrow nationalism, by fear, habit and convention. These powers may now, if ever, blossom forth; they have been wasted too long in patriotic feeling and idle dreamery. They must now show what they can do in a practical world that will have no more of assertions. The world stands to-day balanced between two ideals. Human spirit, the spirit of nations, is a free and plastic force; it is also a sum of motives and desires; but most fundamentally of all it is a growing, living, creative and personal spirit. It still clings to its luxuries of feeling, to its provincial life, it is still fascinated by its beautiful romance of empire. On the other hand we see the stirring of a new idea. A new world arises, less dramatic in its appeal than the old world, but a world appealing by its practical problems both to the will and to the intellect. . . . We stand to-day at a dramatic moment in history; a more dramatic moment than when the victory itself hung in the balance. Perhaps our sense of responsibility for the future is an illusion; perhaps we are driven by an inexorable logic of history, and we do not after all choose what our world shall be. But certainly the sense of human power in the world has never been greater than now nor seemed better justified; nor, if we are deceived, has the reality ever been more out of harmony with the ambitions of man" (pp. 156-157).

The second part of the book is devoted to the problem of reorganizing education for the purpose of establishing moods more de-

sirable than the intoxication of war, and especially establishing the international mood. It consists for the most part of wearisome variations on the theme: "If internationalism is to be the order of the future, new educational efforts will be demanded, and there must be different points of view in the several phases of our educational system, for now all education is devised with reference to an autonomous state of the nation" (p. 181). The discussion is unduly repetitious and obvious. It contains some interesting suggestions for education, but philosophically and psychologically it adds little to the first part of the book, and therefore need not further concern us.

In the last third of the book Mr. Partridge gives us his views on a number of subjects—some of them appear to be almost hobbies. For example, he believes that schools should be transferred bodily from the city to the open country on the ground that it would afford a more desirable moral and esthetic environment in which "the fundamental moods of childhood" could be more readily directed and controlled (p. 191). The schools should be thoroughly religious in order that "the philosophical attitude" may be developed. Industrial education must be less specialized, more esthetic and creative. "Our schools of to-morrow . . . must still be inspired by the scientific spirit, but what we need is science humanized, and science in the service of moral principles" (p. 313). "Education of the sexes through situations in which the specific abilities of each sex are brought into action, doing for the wider social life what the natural and instinctive differentiation of activities has accomplished in its way for the domestic life seems to be the main principle now to be employed in the education of the sexes" (p. 300). These fragments should suffice to give an idea of what is scattered about in the latter part of the book.

We return to review the psychological and philosophical argument of the author. One's total reaction to the book is emotional. It is impressive not as an argument or a scientific inquiry, but as a sermon. It is edifying rather than clarifying. One is swept along much as though one were reading a book of psalms; each sentence is an exhortation, and as one proceeds the exhortatory force accumulates until one ends in an "intoxication mood" of edification. One can not emerge from the book without a feeling of enthusiasm for something which is critically important, but that something is intellectually elusive. There is some evidence throughout the book and especially in the preface that the book was designed for this purpose, and there is even more evidence that it originated in such a mood. However that may be, the effect produced on at least one reader is this feeling of confused exaltation—one might call it the Richard

Strauss effect. The effect is produced by an attempted blending of discords. A few illustrations may make clear what I mean.

The book is avowedly a plea for the development of "the international mood." Hence the reader is naturally curious to know how such a state of mind may be achieved. The author's answer is: by studying history for the purpose of discovering "what each nation stands for, its ethos, its personality" (p. 174), and by the "reeducation of national desires." That has a pleasant feeling tone, as the psychologists would say, but what does it mean? If nations are to be judged historically, if their historical development is "an unfolding of purpose in the world" (p. 194), what does a reeducation of this purpose mean? Or conversely, if a new international consciousness is needed, how can a Hegelian philosophy of history, or any philosophy of history for that matter, serve as its justification? One is reminded of H. G. Wells's phrase, "salvation by history." Only an evolutionistic historian could conceive of so poor a way of attaining salvation. It would be out of place to enter upon a criticism of the author's assumption that nations are historic personalities, characters in a cosmic drama, and his even more fundamental assumption that "life in its fundamental movements and motives is both simple and continuous; it is fragmentary and complex only on its surface" (p. 321). They are not new ideas and have been of late so widely criticized that it seems highly naïve in a contemporary author to take them for granted. A single comment, however, might not be out of place. In his discussion of Americanism, the author defines "that which American life is in truth based upon" as "physical power and motor freedom, the sense of liberty, the colonial spirit of comradeship and devotion to a common cause, the ideal of an abundant and enthusiastic life" (p. 221). On the author's hypothesis this analysis seems "fragmentary and complex" enough to be assigned to "the surface." But to the uninitiated it would suggest that it is dangerous to assume that American life really has a unified personality or an ideal basis.

A corollary of the confusion indicated above is the following: "War obtains a natural explanation on sociological and psychological principles, not as a disease, but as a natural consequence and condition of the formation of nations" (p. 203). As if a "social disease" were not also a "natural consequence and condition of the formation of nations." Would that we could destroy diseases by explaining them! Moreover, what light can a "broad interpretation of the world and of history and the nature of national consciousness by some genetic view of national life" (p. 203) possibly throw on the problem of "the good and evil of war"? History teaches us that "genetic" theories are morally irresponsible!

One other illustration of the author's use of words for the sake of emotional effect at the expense of clarity must suffice. In a passage quoted above the author speaks of the "powerful energy and purpose" underlying all history. One immediately gets an ecstatic twitch upon reading such a phrase. But surely it is confusing to identify energy and purpose. The fact that evolutionist writers are in the habit of doing it makes the fallacy all the more pernicious. In view of contemporary discussions it appears to be high time to make a clear distinction between the two, instead of continually trying to "resolve" one into the other. It is emotionally very effective to start with a conception of a universe of energy and then very gradually, almost imperceptibly, to change the scene until presently the vision of a cosmic purpose bursts into view. But that is after all an intellectual "movie stunt," not to be mistaken for reasoning. In spite of our horror for "fixed ideas," reason continually flounders in an ideational flux.

It is clear from the above that the greatest source of confusion in the book appears to me to lie in the constant application of the evolutionary fallacy. (Logicians should give it a technical name; I suggest, *ad historiam*.) A second difficulty, and this one a practical difficulty, arises from the function of "a psychology of war." It appears that an analysis of the "war-mood," being nothing more than an exposition of how war conditions affect the human mind, can not be part and parcel of an analysis of the causes of war. I believe the author recognizes this. If this is so, then the problem of abolishing war and establishing internationalism is a problem of controlling the conditions by which a war-mood is generated, and not a problem of the education of moods. It is fundamentally a problem for politics and government, rather than for "the education of motives." I feel that there is a confusion in the use of the terms motives and causes for war. The author begins with the attempt to discover motives *for* war, but soon, and apparently unconsciously, drifts into a discussion of motives (or moods) *in* war. The problem of the motives *for* war is not strictly speaking a psychological problem, as is the latter.

The book is unusually fertile in suggestive "texts" for discourses on a great variety of subjects. It is to be regretted, I think, that Mr. Partridge did not content himself with a few of these and develop them carefully, instead of trying to discuss human life in general. I mention only a few of these texts. A pragmatist might preach a good sermon on: "Our culture is an experimental culture and represents an experimental civilization." A neo-realist might find it interesting to develop Mr. Partridge's idea of the externality

of international relations. And a Freudian might be interested in analyzing the "psychological principles" underlying a contemporary book on the "intoxication mood."

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JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW, January, 1920. *The Present Situation in Philosophy* (pp. 1-26): NORMAN KEMP SMITH. - Philosophical systems are reducible to three main types, idealism, naturalism and skepticism. Skepticism is at present in abeyance. The controversy is between naturalism and idealism. They agree as to the objective validity of intellectual values, but differ as to the objective validity of all other values. *The Case Against Dualism* (pp. 27-42): A. K. ROGERS. - Examines twenty-two isolated examples of arguments against dualism or representationalism gathered from widely varied sources, and concludes that they are not decisive against all available interpretations of such a theory, and that more criticism on the part of opposing philosophies is needed if their foundations are to stand. *From the Old Realism to the New* (pp. 43-58): JOSHUA G. GREGORY. - Sees in opinions concerning dreams direct parallels with the realistic and idealistic movements of thought. Where the content of dreams is external, as in animism and the new realism, the tendency of thought is realistic; where dreams are taken as subjective, thought is idealistic. *The Destiny of the Self in Professor Bosanquet's Theory* (pp. 59-79): RADOSLAV A. TASNOFF. - "An effort will be made in this paper to state concisely Professor Bosanquet's treatment of this problem (*viz.*, the mode of being of the finite individual) in relation to his general philosophical position, to note some of the more important criticisms . . . , and then to consider briefly how far it does justice to the cosmic rôle of the finite individual." *Discussion: The Nature of Knowledge* (pp. 80-82): JAMES LINDSAY. - A brief defense of the legitimacy of such a study as the theory of knowledge. *Reviews of Books*: Ernest Barker, *Greek Political Theory: Plato and his Predecessors*, PAUL SHOREY. H. J. W. Hetherington and J. H. Muirhead, *Social Purpose: A Contribution to the Philosophy of Civic Society*, J. E. CREIGHTON. Henry Rutgers Marshall, *Mind and Conduct*, HELEN E. PARKHURST. *Notices of New Books. Summaries of Articles.*

- Eddington, A. S. *Space, Time and Gravitation*. Cambridge: University Press. 1920. Pp. 218. 15s. net.
- Labordère, Marcel. *Une profession de foi cartésienne*. Paris: Armand Colin. 1919. Pp. 142. 3 fr.
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NOTES AND NEWS

A MEETING of the Aristotelian Society was held on June 7th, Professor Wildon Carr, vice-president, in the chair. Rev. A. E. Davies read a paper on "Anselm's Problem of Truth and Existence." The famous proof of the existence of God is not purely ontological, but rather the verification of a specific mode of experience termed "Faith." In Anselm's words it is "Faith seeking understanding," and by Faith is meant a mode of immediate apprehension, awareness of God. Two stages are distinguishable in the reasoning. The first seeks to prove that we must think of ultimate reality in terms of existence. Here the appeal is to logical thought. In the second stage Anselm proves that this ultimate reality is his Personal God. Here the appeal is to experience. The argument implies that truth and existence are two ultimate forms of reality;—existence the reality of things, truth the validity of thought-contents. Hence truth must be sought in terms of validity. This is the logical character of the "proof." We can "only *know* as perfectly as possible." We know existent reality only as our thinking is valid, and we can not think validly that God is non-existent. Between these two ultimate forms of reality is presupposed a fundamental agreement, such that the relations of thought validly represent the real relations of things. For Anselm such agreement has its ground in God. A second implication is that when thinking is valid it starts from existence, in the same sense that its contents are occasioned by existent reality. So that without experience we can not know. The ethical character of the basic conception of God proves it to be no mere thought-product, that is, knowledge presupposes a mode of reality dissimilar from itself.

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THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

PROFESSOR DEWEY'S "JUDGMENTS OF PRACTISE"

JUDGMENTS of practise are judgments which concern things to be done. They are such as: "It is better to do this," "Smith should consult a physician." In Professor Dewey's *Essays in Experimental Logic*, the consideration of these judgments is given a prominent place. The author hints that what one does with these judgments may easily lead to suggestions concerning a proper general theory of the status and task of knowledge. I agree that certain questions of considerable importance are raised, and I therefore desire to examine such judgments further. My quotations are drawn from Professor Dewey's chapter, but I should certainly not wish to commit Professor Dewey to such interpretations as I may make.

So let us consider Professor Dewey's characterization of such judgments. These judgments, we are told, imply "an incomplete situation," going out beyond the moment, and reaching towards a future that is not yet. Let us here pause to observe that the word "situation" has a number of possible meanings. It may mean "where I am." It may mean something quite distinct, namely, "where I think I am." "Where I am," may include all my surroundings; or only all such as *might* have influence on me; or all such as *will* have influence on me. It might also be limited to such surroundings as have effects on me that call out, on my part, characteristic reactions, relevant and purposive. "Where I think I am," is not to be identified with this last, for I may believe that I am reacting to things there that are not actually there, or may act with reference to possibilities that remain possibilities. On the other hand, I may react as an organism in characteristic ways to stimuli of which I can hardly be said to be mentally aware. The savage grows feverish, as his body fights against microbes, and he meanwhile anxiously propitiates the demons that his imagination has conjured up. Professor Dewey does not generally make these distinctions. He is, nevertheless, surprised when people interpret him

in subjectivist terms. Yet one who fails to distinguish between what is and what he experiences, has no reason to be surprised at such interpretation.

A further differentia of the judgment of practise is the presence of the maker of the judgment in the situation judged about. Indeed, not only is the judger involved, but Professor Dewey adds further: "Their subject-matter implies that the proposition is itself a factor in the completion of the situation," which, as we learned above, is "incomplete." An epiphenomenalist might wish to argue a prior question here. I shall not. I am willing to go with Professor Dewey. Only I should like to discover first exactly where he is going. For instance, the reference to "subject-matter" is ambiguous. "Subject-matter" may mean all of what is specifically referred to in the judgment, whether existent or not; or again, such parts as do, or will, exist; or on the contrary, it may refer to the meanings or actual present contents, whatever they are, in terms of which I think of this objective judged about; or lastly, it may even mean the total situation, in some of the senses above mentioned. In any case, the judging might be endowed with causal efficacy, without ascribing any such efficacy to what is judged about, since a judging might have an effect, even when erroneous, though in the case of such false judgment what is judged to be existent is not existent at all, and so can hardly be itself causal.

Next it turns out that practical judgments are to be limited to what are, in some rather general sense, value judgments. "One outcome is better than another." And further, the "subject-matter" implies "that the proposition is to be a factor in securing (as far as may be) the better." I suppose all that is meant here is that we have some sort of ulterior motive in making the judgment. But this leads to a further point which, though not obviously fundamental to the logical exposition, is dwelt upon at such great length as to show that here is situated one of Professor Dewey's own main interests. We are told that practical judgments bind together present means and future ends. I do not merely judge something good in the abstract. I judge it a good future for me, who am what I am. Of various ends abstractly possible, only those to the attainment of which adequate means are available and those only in connection with the relevant means—those and those alone are worthy of our consideration. On the one hand complete predetermination is denied, on the other, impractical utopias. This practicality of attitude is worthy of respect, and perhaps we need not here do more than warn of its obvious dangers, though it would be easy to sing the praises of ideals that have roused men to great deeds and shaped the course of his-

tory, though lying far beyond what is ever destined to be on this earth; it would be easy to maintain that no ideal has ever been a great dynamic inspiration which was actually realizable in point of fact. "These aims are means," says Professor Dewey. Yes, but the judging them good has been a means of human advancement because they themselves were possibilities whose realization as ends was judged good.

But leaving these considerations, we now come to the crux of the whole exposition. We are told, concerning these judgments of practise, "their truth or falsity is constituted by the issue." "The event or issue of [the course of action indicated] is the truth or falsity of the judgment. This is an immediate conclusion from the fact that only the issue gives the complete subject-matter. In this case, at least, verification and truth completely coincide." Let us examine.

It will be necessary to begin with some general considerations about verification. Suppose I ventured to affirm, "It is going to rain." Suppose, thereafter, I went into the house, and did not look out again. Suppose later it did begin to rain. There would then be one sense in which it could be said that the rain had "verified" my judgment. It simply happened as I predicted. The truth and this verification could perhaps be said to be the same—if one were willing, in Aristotelian fashion, to say there are no specific truths about the future until the future event, by actually happening, ceases to be future. But this would apply to all judgments about the future. I feel sure Professor Dewey has something different in mind. He is thinking rather of the case where I do later look out of the window, and do see that it is raining. This is verification. But are we, then, to understand that this sort of verification is to be simply identified with the truth of my judgment? Note again that we are not yet considering judgments of practise, but are including all judgments about the future. But what I now advance concerning all verification will apply to the special cases as well. My contention is that it is most undesirable to cancel the distinction of truth and verification. I think it undesirable because I believe many or most judgments about the future are made to be used. This sounds pragmatic enough. Nevertheless I seem to be at sharp variance here with the literal interpretation of Professor Dewey's words. For what I mean by use is this. I do not judge, "It is going to rain," in order to verify whether it is going to rain. I make the judgment in order to avoid that striking verification which consists in getting caught out in it, and getting wet. I judge the matter in order to make up my mind about a further volitional decision, for instance whether I

shall, or shall not, go out for a walk. I desire that my judgment about the rain be true. I may not in the least desire that I should personally verify its truth. Surely it would be most inconvenient, therefore, to identify truth and verification. Neither, for that matter, should I wish to identify its truth and its use. Its truth is not even a cause or condition of its use. I use it because I think it is true. But my thinking it true does not make it true. We must distinguish (a) truth-claim, and (b) truth, and (c) use, and (d) verification. I see no gain in muddling these together.

But suppose I do verify. Does the verification consist in my act of looking out of the window, or in the rain which I see, or in both? It consists in the mere existence of none of these. You could look out of the same window and see all that I see when I look. But that would be no verification of my judgment. I not only have to look and see the rain. I have to *compare* what I see with the judgment that I made. I have to *recognize* that this is the rain that does correspond to, and fulfill, my judgment. That is, verification is comparison and recognition. It is an intellectual thing. It is not a mere plunging back into an unintellectualized immediate experience. It is not a mere activity of doing something. We need only to consider the case in which the judgment is refuted to perceive that even the above enumeration of factors is over-simplified. I judge, "There is a brick house at the end of the street." The refutation of this would not consist in failure to find the end of the street. Complete failure to verify is not refutation. Neither does it consist in finding a tree growing near the curb. In all good verification I find things I did not expect. Refutation obviously consists in finding the end of the street as expected, but not finding the house there, though expected. Part of my expectations, and part only, are met. Analysis of significant factors is involved. But furthermore, the not finding a house there is not a mere observation. It is itself also an intellectual inference from what I do see. I can observe what is there, but I can not observe what is not. The latter factor belongs to thought. In brief summing up, verification involves analysis and comparison and recognition, and is not a mere plunging back into a non-intellectual immediacy or activity.

But, to return to Professor Dewey's "practical judgments," I think it can easily be shown that the situation with them involves all the above considerations and some others in addition. To avoid raising the question of objective value, let us select a case of judgment of preference. A preference need not be a judgment. Thus I may look at blue and red, and prefer the blue. This is hardly to be called a judgment, because there is no question of true or false.

We should get a judgment of preference only in cases where, at the moment, the alternatives were not thus present. Let us take, as an example, a practical judgment of preference referring to my own future. I judge, let us say, that "It would be more enjoyable to go to the concert this evening, rather than to the theater." In what sense can this bring about its own verification, and in what sense is the verification one and the same with its truth? Let it not be said we are unfairly complicating the case by introducing alternatives. Only when alternatives exist, even if unexpressed, would there be any meaning in supposing the judgment influenced the result. I think, therefore, that the example of an explicit preferential judgment is really the sort of thing that Professor Dewey is seeking to describe, and indeed, his own examples seem all to involve alternatives of action, even if only the alternative between doing and refraining.

So I have judged that it would be more enjoyable to attend the concert. Does this judgment bring about its own verification, even if acted upon? I can not go to both places. I judge in favor of the concert, and go. But can any enjoyment I get there suffice of itself to assure me that the theater would not have been even more pleasing? Certainly I can compare with previous trips to the theater. But that is an intellectual comparison of widely separated experiences, and not the experiences themselves. It is another judgment. Certainly I can infer from what my friend says, who did go to the theater that same night. But that involves other judgments, and not immediate experience. Could I do both alternative deeds, I should not need to make this judgment of practise which is supposed to lead to its own verification in deeds and experiences. If I go to the concert, that night's enjoyment of the theater never does come into existence. Professor Dewey says the subject-matter of these judgments of practise is as yet incomplete. I shall go a step further, and say that one essential part of the subject-matter is such as is destined to be forever only a possibility. The judgment is made precisely because the verification which Professor Dewey seems to call for is impossible. It is made because we have to choose and reject, and what we reject we forever put beyond the range of actual verifying experience. Certainly we can test these judgments of practise; and we do it by adding further experiential data. But these data themselves need to be interpreted. They become raw material to be worked up in new intellectual operations, new judgments of comparison. But in no sense are the new data themselves to be directly identified with an adequate verification. The completion of the incomplete situation is, therefore, neither the truth of the practical judgment nor its verification.

Let us reinforce the above argument from a slightly different angle. Judgments of practise are judgments about a future whose character is causally dependent upon the making of just these judgments. But though, by this hypothesis, you make the future what it becomes, and do so because that sort of thing is declared to be good or preferable, it is not at all evident that it becomes good or preferable because you bring it into being. Yet this seems to be the force of Professor Dewey's argument. If a cook thinks she can make a cake that is peculiarly delicious by combining the ingredients in certain novel proportions, and if she tries it and the taste is as expected, then that judgment of hers is causal towards the making of the cake, and obviously this particular cake can not have a pleasing taste until it is made. But what is asserted in the judgment is the connection, "If a cake be made in these proportions, then this taste will result." What is made by the cook is the cake, and not this hypothetical connection or implication of qualities. Only if the making a judgment that cakes concocted in certain proportions taste good were the cause which actually produced this relation between the proportions and the taste—only then could it be said that the judgment produced its own truth. It is not enough that the judgment causes the cook to make a cake. The judgment must cause cakes made in this proportion to taste good, when otherwise they would not. Aside from pathological cases of self-hypnotism, I see no reason to suppose that this ever happens, and therefore I see no reason to suppose that Professor Dewey's theory is ever true.

To "pick an argument to pieces bone by bone" is an ungrateful task. Yet this argument I have been analyzing is one which Professor Dewey and many of his followers believe, or so I understand, to be the ablest contribution to logical theory that he has ever written; and he suggests that it is the entering wedge which, pushed home in all its consequences, will bring the edifice of those philosophers who disagree with him crashing to the ground. Therefore I have thought it worth while to show exactly, and in detail, just where those who disagree with Professor Dewey take specific issue with him. As I read the pages about judgments of value which follow as a corollary to his argument, I find, as I should like to point out more fully did space permit, intentions worthy of much praise: a vision of an open future, wherein new combinations are to be tried, and the experience of new values brought into being in this world of ours. But I fail utterly to see why one who would welcome such a vision, or one who would hold in esteem the experimental method, with its close grip on realities, is also compelled to believe in this extraordinary logical theory. I can judge that, under certain condi-

tions, sulphuric acid and copper will make copper sulphate, and I can experiment and test it, and doubtless it is necessary for me to do so before I can lay claim to real knowledge. But if some one thence concluded that, "You have made sulphuric acid and copper make copper sulphate"—as though otherwise they would have made something else—"and therefore your judgment has made itself true"—such a statement of the case would seem to me the purest of verbal fallacies, a play on different senses of the word "make." Yet this is exactly the result to which the ingenious dialectic of Professor Dewey seems to lead.

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THE PLACE OF METAPHYSICS

IT is regrettable that Professor Warbeke in his comments¹ on my article on "Methodological Teleology"² declines to enter upon the important questions I had endeavored to raise, such as the relation of methods to metaphysics, of values to facts, of axioms to postulates, and merely tries to exculpate himself from certain animadversions he finds in my paper.³ He does indeed state that metaphysics are

¹ This JOURNAL, Vol. XVII., p. 120.

² *Ibid.*, Vol. XVI., p. 505.

³ I had mentioned, incidentally, in a footnote (p. 550), that his accounts of me were inaccurate and not to be trusted, and instanced that he had misrepresented me (1) as demanding the "abrogation" of the law of contradiction, and (2) as identifying "true" and "useful." He replies to (1), but not to (2), by quoting (at unnecessary length) from the context of the passage he referred to, but not, unfortunately, the two sentences immediately preceding the one he had attacked. As however he does (this time) quote it directly, he reveals that I had *never* said that the law of contradiction "demands its own abrogation," but had merely remarked that it *seemed* to, and moreover that in the next sentence I had described this view as a "paradox." That ought, I suppose, to satisfy me. On the other hand it seems odd to say that his selections from me were "discussed under the head: 'Contradiction—as a Principle of Being, Either Meaningless or False; as a Principle of Thought, Self-contradictory.'" For these headings are *not* from the text (as any one would suppose), but from the *index* (which is not by me), and they refer also to a later discussion (p. 131-2), in which the proper meaning of contradiction is worked out and the "paradox" is cleared up. It is difficult to believe that if Professor Warbeke had looked up this second passage, he would not have perceived that the view he was attacking was not mine, even if he had read the first too cursorily to notice the words "seem" and "paradox." I am sorry to say also that his quotations from my article in this JOURNAL leave much to be desired. Thus he quotes a passage (XVI., p. 551) in which I argued that the alleged "teleological constitution" of the world was *only a methodological assumption*

(or may be?) for him hypotheses, and even gives (p. 122) what may be taken as a sort of definition of metaphysics as a "systematic effort to coordinate our most general assumptions into logical coherence." But upon closer inspection all his dicta seem to me too vague or ambiguous to form good starting-points for a discussion of the place of metaphysics in the *corpus* of the philosophic sciences: it will be better to approach this difficult question by casting a glance backwards over the history of this notion.

1. Metaphysic commenced its career, in Plato, as a way of discovering (absolute and ultimate) Truth by talking to young men. The younger, the better.⁴ It was accordingly called *Dialectic*. When no young men were handy, or they got bored and went away, the philosopher might also claim the license of thinking aloud, and his "Dialectic" became "the soul's converse with itself."⁵ In either case, *Dialectic* was the highest human pursuit, and no doubt was entertained of its capacity to attain to ultimate reality and absolute certainty. It was the sole guarantee of the "hypotheses" of all the sciences.

2. In Aristotle it changes its name, rather than its nature. In fact it gets two names—"first philosophy" and "theology." They are not perhaps as complete synonyms as Aristotle supposed. It makes a difference whether we conceive metaphysics as *the science of the first principles* which are common to all the special sciences, or as *ontology*, the science of $\tau\omicron\ \delta\upsilon\ \eta\ \delta\upsilon$, which contemplates pure Being and Form undefiled with Matter. Moreover the two conceptions develop differently in the sequel.

3. After Aristotle, his editors took up the problem of placing metaphysics. After mature consideration they solved it, in a non-committal, but somewhat mechanical, way, by putting the writings on first philosophy *after* those on physics! And "metaphysics" they have remained ever since.

But only verbally. The meaning concealed behind the word has continued to vary and waver, and is still in dispute. Particularly as regards the relation of metaphysics to the sciences, which were steadily accumulating masses of truth hardly to be ignored altogether, even by the most obstinate metaphysician.

Formally there appeared to be a choice between three alternatives and moreover one *all* philosophies had to use; but he omits the reference to methodological assumptions and my quotation marks round "teleological constitution"; so that an unsuspecting reader would ascribe the phrase to me instead of to him! In the next quotation also (p. 122) he has substituted the notoriously tricky word "presupposed" for my "supposed."

⁴ Cf. *Parmenides*, 137 B.

⁵ Cf. *Sophist*, 263 E.

tives. (a) The sciences might be declared dependent on metaphysics, either wholly, as by Plato (*Republic*, VI), partially and in so far as they resorted to "common axioms," as by Aristotle. But though in Plato's time it might seem possible to represent the sciences as awaiting the sanction of metaphysic and as indebted to it for the validation of their principles, their enormous development and steady progress during the last 2,000 years, when contrasted with the vagaries and unprogressiveness of the metaphysics, practically exclude this conception of their relations.

It is (b) more plausible, conversely, to conceive metaphysics as depending on the results of the sciences, and as attempting their final systematization. Clearly this makes metaphysics the *locus* of the final *problems* of knowing and being, and puts them *last*, not first, on the scientific programme. Also it tends to make them problematic, provisional and empirical.

(c) This of course was abhorrent to the rationalistically-minded, who have always claimed to be the true metaphysicians. So, while abandoning the claim to universal empire over the sciences, they endeavored to maintain at least the *independence* of metaphysics.

For this purpose metaphysics had to be equipped with a distinctive *subject-matter* and a distinctive *method*. "Being as such," "ultimate reality," and a variety of "absolutes" appeared to supply the former; "pure thought," "reflection" or "analysis" might be represented as the latter. As regards the former, the assumption common to all metaphysics was that their object could be taken as known or knowable; as regards the latter, that their method was non-empirical and unaffected by the changes which the sciences were continually effecting in the ideas they operated with.

Hence it was a serious blow to this conception of metaphysics when the question was raised how we *come to know* the reals we believe in. For it meant the dethronement of "ontology." Kant was not the first to raise this issue, but he did so most successfully; perhaps because he was not very radical, and shrank from questioning the belief in the *method* of rationalism, and, even in depriving the metaphysician of his transcendent objects, showed that his heart bled for him and still hankered after what his head had been forced to reject: at any rate he persuaded rationalists, in words at least and for a time, to recognize some of the most obvious difficulties in their position.

On the other hand it is clear that the scope of Kant's "Copernican Revolution" is limited. It applies only to such metaphysics as claim to be purely *a priori* and final systems of ultimate reality; it leaves unaffected the provisional syntheses that are willing to be

progressive guesses at truth, based on the conclusions of the sciences. These may continue to decorate themselves with the title of "metaphysics," if they value it.

It is clear also that his conception of philosophic method remains purely rationalistic. Though Kantian epistemology dethroned the old metaphysical dynasty, it only represented a younger branch of the same august family. Hence actual Kantism never cut at the roots of rationalist metaphysics, and could be followed by the remarkable reaction known as "post-Kantian idealism," the most extraordinary orgy of metaphysical speculation the world has ever witnessed, which the national pride of the German professoriate contrived to impose on the other professors as a normal and valid development of the human mind.

So two really valuable implications of the Kantian "Revolution" were obscured. The first was that it was legitimate, nay necessary, to raise questions prior to the ontological question—what is real?—because the real for us has always to be a knowable real, and epistemology thus becomes the logical presupposition of any metaphysic. This renders a frontal attack on the real impossible: it can yield its secrets only to a formal siege in which the differences made by *our knowledge of the real* are systematically estimated.

Moreover the question of knowledge did not, upon further investigation, appear to be the most ultimate of all. For knowing turned out to be a purposive process, and its course and character seemed to be largely determined by the devices and interests that inspired it, the ends it arrived at, and instruments it forged to compass them. Now this seemed to complicate questions of metaphysics with those of personal psychology on the one hand, and with questions of ethics on the other. For the traditional name for the end was the "good," and the Greeks had conceived the science of conduct as the search for the supreme end; if then all knowing depended on a "good," and all being on knowing, did not the good condition being? Thus the supreme science of metaphysics seemed to be subordinated to the special science of ethics.⁶ But in reality it was to introduce a new question into philosophy, that of *Value*, and to imply that all judgments about the real are, as a matter of fact, value-judgments, since they have been selected and preferred by a purposive process of thought. Now the recognition of *Value* is the only philosophic topic

⁶ I have myself repeatedly been censured on this account, and particularly for calling an Ethical Society Address *The Ethical Basis of Metaphysics*. The title was of course a conscious paradox, and was intended to express weariness with the pretensions of metaphysicians to make that support others which could not even support itself. But if it is objected to, I am quite willing to withdraw my "ethical basis," and to leave metaphysics in the air.

of first-class importance which can be said to have originated between the rise of Criticism and of Pragmatism. It is also the only one which can be said to have originated in Germany. It is post-Kantian and post-Hegelian, but its origins are obscure and its development is not yet complete. On metaphysics its effect is enormously to lengthen the approach to ultimate reality. For it complicates the question of what the real *is* with the question of how our various interests and ends, attitudes and prejudices affect our ways of *reaching* it. Our interests seem so various that these complications seem infinite, and so variably do their effects help or hinder that their influence ceases to be rationally calculable and becomes merely empirical.

So, though attempts have of course been made to arrive at valuations that can be represented as stable, universal and absolute, the growing prominence of the value problem has tended to reinforce the empirical attitude towards metaphysics. This attitude had already been fostered by the criticism of the rationalist and the Kantian conceptions of philosophic method.

It was pointed out, as against the former, that the distinctive method claimed by metaphysics did not exist. No thought was ever "pure," either in the sense that it was not stimulated by experience, or in the sense that it was not actuated by psychological interest in its thinker.

Neither were "reflection" and "analysis" methods that could be operated without regard to experience. No doubt they did not require capacious laboratories and costly apparatus. The philosophical professor could sit at ease in his chair, and perform these thought-experiments. Nor did the marvels of "reflection" and the acumen of "analysis" overtly presuppose any empirical observation. But both procedures were apt to become arbitrary and uncritical. You "reflected," in the light of prejudices that were unseen and unrecognized. You "analysed," but not the notions whose ambiguities you were preparing to exploit. In the end it seemed questionable whether anything was achieved but a fuller consciousness of the meaning of the words reflected on and analysed. And even this result was obnoxious to the double objection, (1) that this meaning is acquired and embodies merely what has been found out about the objects named, and (2) that it is not fixed, but changes as our knowledge grows. So that even if the metaphysicians had agreed to fix their technical terminology—and their lawless individualism rendered this impossible—it would have been rendered obsolete by the progress of the sciences. Decidedly neither "reflection" nor "analysis" could provide metaphysics with a distinctive method.

The *a priori* method of Kant seemed at first more promising. But it rested on two weak assumptions. The first was that the survey of the epistemological field had been exhaustive, and that consequently the Kantian analysis of the implications of knowledge was not merely one out of many, but *the* only one that would stand. The second was that in consequence it could be argued that knowledge must imply an *a priori*, if it contained what was *not* "empirical," and that this *a priori* must be Kant's, because his was the sole and final one.

However neither of these assumptions proved tenable. It appeared that, so far from exhausting the possibilities of thought, the Kantian epistemology merely took over and tinkered the "atomistic" psychology of Hume and his passivist conception of experience. Nor had it any positive arguments wherewith to commend itself. It could only reiterate that it was the only alternative to Hume. But it wasn't. It was not a "necessity of thought" to assume an *a priori* structure of thought according to the Kantian pattern. Indeed Kant admitted as much, by admitting practical postulates into a corner of his system. It thereby became legitimate to conceive the "*a priori*" voluntaristically, as composed of postulates, tested by being acted on, in the hope of their proving valuable, instead of intellectually, as (unintelligible) facts of mental structure. Actually this alternative interpretation of the *a priori* worked much better; but whether this was admitted or not, the mere fact that it was possible completely invalidated all arguments based on the assumption that the only alternatives were either a sensationalist or an apriorist intellectualism, and that to confute either of these *ipso facto* established the other.

If however "axioms" were simply successful postulates, and if postulates might begin their scientific career as wishes or as methodological fictions, it was clear on the one hand that man was left free to try *any* assumption he was willing to act on, and on the other that the function of experience in sifting and sanctioning human assumptions was really important. The secular controversy between rationalism and empiricism was in danger of being settled voluntaristically, by a compromise that repudiated neither human activity nor the value of experience.

The effect of this new development in epistemology on the position of metaphysics, was further to support the empirical conception of their relation to the sciences. For it now seemed as if all principles must be essentially experimental, while the sort of working appropriate to metaphysical principles became precisely that which was attested by scientific use. Moreover the voluntarist conception

of principles had a further effect. It affected the way in which the reals of metaphysics were regarded. It was no longer necessary, or even rational, to regard them as final. It was easier, safer, and in the end more convenient to regard them as hypothetical, provisional, and subject to revision whenever occasion arose. Thus even "ultimate reality" was only ultimate up to date, even "first principles" were only first because it was not yet convenient to relegate them to a secondary place.

Scientifically this had the effect of rendering relatively unimportant the question about ultimate reality. It emancipated science both from metaphysical dictation and from superstitious respect for "facts" that were after all relative to the state of the science that recognized them, and left it free to operate in any way that promised to be advantageous. "Facts," like "principles" ceased to be *ontological*, and became methodological, conceptions.

Do we thus finally arrive at a complete subjection of metaphysics to the sciences? Can metaphysical systems do nothing but reflect the vicissitudes of scientific opinion, and ruminate the precious truths cast before them? Is "metaphysics" merely the label for the unsolved, and probably insoluble, problem of a complete synthesis of all that is known?

By no means: if only metaphysics will take themselves seriously and honestly face the duties imposed on them by their definition, they too may emancipate themselves from external control and be free to become an integral function of life. If we define, as the duty of metaphysics, the complete synthesis of all the data of knowledge, we *must* include among them those data which are provided by the strictly personal portions of our experience. For it is of *his* experience as a whole that each one of us demands a synthesis, and to eliminate the personal part would be to mutilate the whole. It is true that the sciences (except individual psychology and some sorts of ethics) appear to abstract from personality and to standardize man before they treat him scientifically. But the facts often force them to recant and to rescind their abstraction. Thus the astronomer finds that he has to ascertain the "personal equation" of his observers. And the physicist prides himself on a great discovery, when it turns out that even in mechanics there is "relativity" and that he *can not* ignore the space and time of the observer.

If therefore metaphysics are to hope to make good their claim to be all-embracing, they must *both* include the results of the sciences *and also* dispense with the fictitious simplifications by which the sciences are wont to facilitate their task. While this makes metaphysics harder, it also emancipates them, and in a way satisfies their

craving for a distinctive object and a distinctive method. The object is all experience, personal as well as scientific, and the method is to evaluate the latter in the light of the former, until the conflicting purposes and principles of the sciences are interpreted into a harmony. Of course the task is difficult, and it is not surprising that so far metaphysicians have not had any signal success.

It should be clear then that there are metaphysics and metaphysics. If we insist on conceiving them as dogmatic systems of obligatory, absolute and final truth, the same for every one and for all time everywhere, we may have to class them among the persistent illusions of the human mind. But if we consider them as pragmatic hypotheses to round off our life withal, to be based upon the best knowledge available and to be changed accordingly, we may find them subjectively satisfactory to ourselves, and not devoid of interest and (at least) esthetic truth for others. But the two conceptions are so different as to render it a matter of some importance to make it clear *which* of them we mean when we speak of "metaphysics."

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THE BASES OF CROCE'S LOGIC. A CRITICISM

CROCE'S *Logic* is concerned, as every true logic ought to be, with knowledge in its entirety, although he has, from his own point of view, chosen to dichotomize his system into *Logic* and *Æsthetic*; it is quite justifiable therefore to ground criticism on general epistemological principles, and I have adopted this position throughout the following remarks.

1. He begins his treatment of the "pure concept," which is the true object of logic, by assigning a *cognitive* activity to sensation¹—a principle which it is essential always to keep in mind. It is certainly an unusual way of regarding sensation and departs considerably from current epistemological and psychological usage, but it is not on that account alone unjustifiable, provided, that is, that it is consistently adhered to and all its implications accepted. Its obvious defect in Croce's hands is that it limits the sphere of thought at the outset by regarding a very extensive range of intellectual activities—those *i. e.*, which he allocates to cognitive sensation—as taking place prior to any operation of thought itself;² and thus a

¹ "Sensation must be conceived as something cognitive, as a cognitive act," *Logic*, p. 3.

² Thought refers back to sensation as its antecedent," *ibid.*

portion at least of our knowledge, even though it were merely its elementary stages,³ is regarded as obtained quite apart from any activity of thought proper. The opposed view of course, which may be taken to be current under many diverse aspects, is that some degree of thought is immanent and active from the first beginnings of knowledge, and may be summed up in the Kantian maxim—"Sensation without understanding is blind." I am not here asserting its absolute truth, but I would point out that its implicit denial by Croce supposes thought to intervene at some unspecified stage of the entire knowledge process, and thus assigns all the earlier phases to some other agency which he calls "cognitive sensation," and distinguishes further from perception.⁴

But what the precise limits of this activity are—at what exact point thought steps in to direct the further advance of knowledge—is very difficult to determine. "Thought," he proceeds, "arises upon the intuitions, and by means of these the cognitive spirit absorbs within itself reality, bestowing on it theoretic form;"⁵ the concept "springs from representations as something implicit in them that must become explicit" (p. 18). It is certainly difficult to discover any clear meaning in these assertions; they appear indeed to suffer from that figurativeness which is the usual refuge of a thinker in a difficulty; and their obscurity is not lessened by the further statement: "it is not true that the spirit issues little by little from the representations" (p. 29); apparently therefore it must, though "implicit in" representations "arise upon" them as a *deus ex machinâ*. But a more serious problem attends the "purity" which Croce thus assigns to sensation; for in what sense can sensation be "pure" if it contains within itself the concept as something implicit?

2. Let us accept, however, this principle that upon "pure sensation" thought bestows the valid theoretic form which is absent from sensation as such. Now in the *Æsthetic* Croce regards this intuitive sensational knowledge as essentially "indifferent to reality and unreality"—as "independent and autonomous in respect to intellec-

³ But Croce himself regards sensation or intuition as a fundamental source of knowledge. *Æsthetic*, *passim*.

⁴ On this point Croce is quite emphatic. Just as Logic deals with the pure concept, so sensation for him is "pure"—"must be taken in its purity, without any logical reflection and elaboration; as simple sensation and not as perception," *ibid.*, pp. 3, 4. The "purity" of sensation in itself presents no difficulty—it is a quite legitimate epistemological abstraction; the ascription to it of cognition here constitutes the problem.

⁵ *Ibid.*, p. 4. "Representation," "Sensation" and "Intuition" are synonymous; but the use of "intuition" by other writers must be disregarded.

tual function;"⁶ thus representations are expressive and artistic, but *non-cognitive*, and this position is obviously quite consistent with the independent rôle of thought; but although representations are as it were taken over from the *Æsthetic* to the *Logic*, Croce's assignment to them of a cognitive function at the commencement of the latter work is a direct contradiction of his final position in the former. But if the "cognitive sensation" of the *Logic* thus lacks theoretic form, what value is there in its purely cognitive results? Either (a) their truth agrees with conceptual truth, which then is obtainable by two absolutely distinct methods; or (b) they are not true, and are therefore valueless for knowledge; or (c) they are true, but independently of thought; in which case the theoretic form which thought bestows is itself invalid or superfluous.

Whatever the solution of this difficulty may be, the pure concept itself is somehow implicit in representation, but is not itself a representation—"a true concept is not representation, can not have for content *any single* representative element;" as against this however, it is an equally fundamental principle that "representation as well as conceptual elements *must always* be found in the concept."⁷ Thus there arises another direct contradiction; for in his preliminary definitions Croce distinguishes between "pure" sensation and "pure" thought (or universal concept), each absolutely exclusive of the other; whereas in the development of his theory the representation comes to be regarded as an essential element always found in the concept itself; not, be it noted, in the knowledge which may be regarded as a compound result of representation and concept acting together, but in that very concept from which it had previously explicitly been excluded.

This exclusion is indirectly confirmed by another passage—"Thought conceals representations less than the veil concealed Alcina;"—the representation is here taken to be visible as such through the thought, not merged within it; but as against this we find that "it is not possible to think without transforming the representation by means of the concept;" so that thought, while scarcely concealing representations at all, nevertheless transforms them: "The appearance of the concept transfigures the representations making them *other* than they formerly were."⁸ Croce's whole

⁶ *Æsthetic*, p. 18. On the other hand, the connection between knowledge and reality is fundamental: "To know is to know reality; and knowledge of reality is translated into representations, penetrated with thought," *Logic*, p. 154. If "translation" is to be taken literally, it would seem to imply that knowledge is prior to both representations and to thought.

⁷ *Logic*, pp. 20, 213; italics mine.

⁸ *Ibid.*, pp. 228, 422, 149; cf. note 5, *ante*.

account of the relation between representation and concept is thus most confused; at one time the concept excludes representations, at another it includes them; and thought is almost completely transparent to representations, which at the same time it transforms!

3. A parallel confusion attends Croce's distinction between pseudo-concepts and the true logical concept. In the first place, "conceptual fictions follow rigorous concepts and presuppose them as their own foundation;"⁹ or in other words, before the mind can attain to general ideas such as "house" or "triangle," it must be in possession of some form of the "pure" concept; and whether this principle itself be actually true or not, at least Croce's argument in support of it is invalid, because it is viciously circular. The "fictional" concepts of "house" and "triangle," he contends, must arise within experience in succession to the true concept, because otherwise they could not be fictions: "were this not so, of what could they ever be fictions?" But for the "fictional" character here imputed to such concepts as "triangle" and "house" Croce advances no other arguments whatever; he merely dogmatically asserts that they are "fictional," compared that is with "pure" concepts. Thus when his complete course of reasoning on this point is brought together in its actual sequence it becomes:

"Triangle" is a fictional concept; but all fictions necessarily presuppose the true, and therefore can only arise subsequent to the true; therefore "triangle" must follow the true concept; it must therefore be fictional. Here the conclusion is plainly nothing but the initial ungrounded assumption itself; "triangle" is styled (without argument) a "fiction," and as such adduced as evidence for the nature and priority of the concept proper; then this is in its turn employed to establish the fictional character of triangle with which the argument began; the logical invalidity of the entire contention is patent.

But even if it were valid, Croce's position here is untrue, I think, to the actual course of cognitive experience. Fictional concepts, as he calls them, necessarily presuppose the pure concept; but this again, as has been shown, presupposes representations;¹⁰ the development of logical knowledge therefore must be from cognitive sensation, by means of the pure concept, to those "fictional" concepts in common and universal use—triangle, house, *etc.* It follows therefore that no one can form these latter ideas unless he first possesses the pure concept proper. But is this a correct interpretation of the actual facts? "The practical spirit," asserts Croce, "can

⁹ *Ibid.*, p. 30.

¹⁰ "Presupposed in the logical activity are representations or intuitions." *Logic*, p. 3.

intervene in representations and concepts previously produced, manipulate them and make of them conceptual fictions."¹¹ Now the formation and employment of these simple general ideas is found in the earliest phases of knowledge; it occurs among illiterates, children, idiots, and possibly even animals. Must these then be credited with a prior consciousness of the "pure" concept? If so this must become the mere ghost of itself; for Croce's own instances of such concepts "of universal character" are "quality, development, beauty, final cause."¹² In what form can these exist in the mind of a child, of a mentally defective person, or of an intelligent dog? If at all, certainly only in an extremely tenuous and highly abstract form; and indeed Croce's own argument explicitly recognizes this in another passage, which is, however, an unconscious *petitio principii*: "It is not possible to think that man constructed the smallest conceptual fiction without having previously imagined and thought."¹³ So much may perhaps be admitted; but Croce's own conclusion does not therefore immediately follow, for it still remains possible that this imagination and thinking resulted first in those general ideas which Croce arbitrarily calls fictional concepts. He asserts however, that the actual primary results were "quantity, quality, existence, and we know not how many other rigorous concepts." Were this contention valid, surely a little further investigation would have revealed these unknown "rigorous concepts;" as the matter stands those cited by Croce are just those which Hegel has shown to be the emptiest and most abstract of all possible ideas;¹⁴ only the highly trained intellect can detect their presence, and to assert that, as pure concepts, they must exist in every grade of intelligence is but a sheer travesty of the actual facts.

Croce himself indeed in spite of the principle thus enunciated has given specific instances of the creation of true concepts subsequently to concepts not universal: "it was a step in progress to identify will and action by the creation of the truly universal concept of the will, which is also action. It was an advance to universalize the expression of art by extending it to language."¹⁵ Admittedly then some "concepts not universal" actually precede and in fact give rise to true concepts, in spite of the general prin-

¹¹ *Ibid.*, p. 33.

¹² *Ibid.*, p. 20. Cf. also p. 75, "goodness and beauty," and p. 92, "truth, utility, moral good."

¹³ *Ibid.*, p. 31. The alternative possibility is refreshingly naïve, and recalls the "innocent savage" of bygone social theories: "man, from being the ingenuous poet that he first was, raised himself, immediately, to the thought of the eternal."

¹⁴ *Logic* (Wallace), Ch. VII.

¹⁵ *Logic*, pp. 42, 43.

ciple previously laid down that fictional concepts necessarily presuppose the true. Indeed if we consider the nature of scientific investigation it seems palpably true that this advance from fictional to pure concepts is the universal method therein employed;¹⁶ which again is borne out by Croce's own description of his "empirical" pseudo-concepts—those most generally employed at the level of ordinary intelligence—as "groups of representations" (p. 63). If, however, we begin (as Croce argues) with representations, what is gained by our "thinking the eternal," and by the subsequent intervention of the practical spirit to form pseudo-concepts, if after all the final result be in the main nothing but groups of those very representations with which we began?

4. It is equally difficult to reconcile the various modes which Croce adopts to express the relations between true and pseudo-concepts. The formation of the latter, as we have already seen, is the work of the practical spirit—in itself of course an essential and valuable aspect of spiritual activity as a whole. It might be anticipated therefore that its results would partake of its own value, and in one sense this is the case: "the relation of the concept to conceptual fictions is a relation not of identity, nor of contrariety, but of diversity" and nothing more.¹⁷ But on the other hand we find (p. 30) that fictions counterfeit or imitate concepts—as though these terms (imitate and counterfeit) were identical in meaning; but an imitation is not necessarily a counterfeit. After this, however, the descent of the pseudo-concepts in the philosophic scale is alarmingly rapid—*facilis descensus Averno*; for they falsify concepts.¹⁸ But if now Croce's detailed comparison between true and pseudo-concepts be followed in detail, it is impossible to understand this charge of falsification. True concepts, we find, are at once concrete and universal (pp. 46, 49); the abstract pseudo-concept differs from this in being universal but not concrete; the empirical, as concrete but not universal (p. 46); the first dispenses entirely with images, the second as invariably retains them. It is surely excess of philosophic zeal to call these two processes, both essential to actual thinking and reflection, both the work of the practical spirit, "falsification;" and its natural result is the ascription of a

¹⁶ Cf. "Man's most abstract ideas are but generalizations of his practical ways of resolving and acting;" Boutroux, *The Relation between Thought and Action*, p. 5.

¹⁷ *Logic*, p. 37.

¹⁸ "Falsifying the concept," p. 45; "there is no other way of falsifying the concept," p. 46; "it will always be impossible to dispose pure concepts . . . without falsifying them," p. 89; "the falsification of the pure concept," p. 369.

self-contradictory function to the activity of thought in natural science. For science (it is obvious) "is composed of pseudo-concepts;" it must falsify therefore the pure concept, falsify "the universal that is truly universal and not mere generality or abstraction;" and yet in face of this fatal logical defect, we find elsewhere that "to establish a universality which at first was wanting, is the glory of truly scientific thought." Thus science at one and the same time establishes, and also falsifies, the true philosophic concept or universal; and since again "thought always thinks with pure concepts, never with pseudo-concepts,"¹⁰ scientific investigation (dealing with pseudo-concepts) at even its highest levels is never worthy the name of thought. But the crowning contradiction, in this respect, is found of all places in the full title of Croce's work itself—*Logic, as the Science of the Pure Concept*—i. e., "as the Pseudo-concepts of the Pure Concept!" Or worse still, if we take Croce's arguments literally, "as the Falsification of the Pure Concept!"

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REVIEWS AND ABSTRACTS OF LITERATURE

To the Editors of the JOURNAL OF PHILOSOPHY:

THE accompanying summaries, consisting largely of quotations of nuclear passages, were prepared for the files of the psychological department at this hospital. They are herewith offered in the hope that they may be serviceable to other users of the JOURNAL.

Very truly yours,

F. L. WELLS.

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NOBLE, ELLIS L. and ARPS, GEORGE F.: "University Students' Intelligence Ratings according to the Army Alpha Test," *School and Society*, 1920, 11, pp. 233-236.

This report concerns the Army Alpha test with 5,950 students at Ohio State University. About 51 per cent. rate A, 33 per cent. B, and 13 per cent. C +. The median score is about 135. Distribution of scores in the student body according to years is given in detail. The highest median scores are made by the senior class in law and the freshman class in medicine. The colleges of medicine, commerce, journalism and engineering score higher than the other colleges as shown by a table in detail. The medians of the classes

¹⁰ *Ibid.*, pp. 256, 42, 71.

within the colleges show a consistent and significant gain through the four years. Some doubt is raised as to whether mental maturity is reached in advance of or at about the age ordinarily attained at the completion of the high school course. The results suggest that it may be necessary to extend somewhat the maximum period for development of innate mental ability. Men students score in general 5 or 6 points higher on the scale than do women.

ANDERSON, JOHN E.: "Intelligence Tests of Yale Freshmen," *School and Society*, 1920, 11, pp. 417-420.

This report is based on 400 cases. Some 85 per cent. rate as grade A, 14 per cent. grade B, and 1 per cent. in C+. The students are thus a highly selected group and rate higher than a large sampling of army officers. A chart shows the distribution of scores in the Freshmen and of some 13,500 drafted men. Among the Freshmen are 131 high school alumni and 254 preparatory school alumni. The median scores of these two groups are practically equal and their distributions coincident. The correlation between the test scores and the first semester grades of 373 students is .377. For a student getting a score of 122 or lower the chances are 1 in 6 that he will be dropped, 2 in 6 that he will be put on probation, and 3 in 6 that he will do creditable work. One man with a score of 193 and another with a score of 182 were dropped from college for deficient scholarship. In such cases the test scores may be very useful to an advisory officer. It is not felt that in general the test is as useful in the selection of college students as others which are devised more specifically for this purpose.

MADSEN, I. N.: "High School Students' Intelligence Ratings according to the Army Alpha Test," *School and Society*, 1920, 11, pp. 298-300.

This report concerns intelligence ratings of high school students, and the differences between classes and sexes. The younger students in each class make the best score. In the Alpha test the median score for the 12 year old freshmen is 125.0, for the 13 year old freshmen 109.7. Such facts answer effectively the argument that the test really measures education and not native intelligence. From the fact of having lived longer the older students should have gained additional incidental information which should help them in making a high score if educational experience is a factor. For any given age there is an increase in the scores according to class. The median scores of 15-year-olds according to classes are 97.2, 114.4, 128.7, 145.0. It naturally requires greater native in-

telligence to reach one of the upper classes at the age of 15. The question is raised as to the intelligence rating necessary to guarantee satisfactory work in the high school. Low scores are at about the level of average intelligence for the army groups. As students so scoring are doing unsatisfactory work it seems that more than average intelligence is required for satisfactory high school performance. Terman has found that some 7 per cent. of students entering high school have an intelligence quotient below 90. His findings are in agreement with the conclusion that average intelligence is not sufficient. Conversely it means that subject matter suited to the mental capacity of high-school pupils is not provided.

JONES, EDWARD A.: "The Army Tests and Oberlin College Freshmen," *School and Society*, 1920, 11, 389-390.

The cases, whose grades are distributed, number 137 men and 193 women. The median score for men is 153 and for women 145. The tests 2 and 8 show the significant sex differences in favor of the men; in the others the sexes are practically equal. 70 per cent. of Oberlin Freshmen made 135 points or better as opposed to about 4 per cent. in the army. The B grade was made by about 26 per cent. of Oberlin Freshmen as opposed to 9 or 10 per cent. of the army. A score of 200 was made by 2 men and 1 woman, two of them 17 years of age, the other 16.

DOLL, EDGAR A.: "The Average Mental Age of Adults," *Journal of Applied Psychology*, 1919, 3, pp. 317-328.

The average mental age of adults is found to be approximately 13 years instead of 16 as heretofore believed. The growth of general intelligence is found to be practically complete on the average by 13 years of age and is not on the average thereafter exceeded. This applies strictly to the level of intelligence or degree of brightness as opposed to intelligence plus maturity, experience, and acquisitions. These conclusions are induced by four separate investigations on totally different types of subjects and from different points of view, namely: (a) The application of Alpha and Beta group intelligence tests to about 1,500,000 soldiers and recruits, where the average mental age is found to be about 13 years. (b) The application of Alpha group intelligence tests to about 500 typical public school children, where the median score of ages above 13 do not exceed the median for 13 years. (c) The application of Alpha group intelligence tests to about 500 juvenile delinquent boys, who are found to be of inferior intelligence but whose level of intelligence is fully attained by 13 years, on the average. (d) The repeated application of Binet intelligence tests to about 250 feeble-

mind persons of wide ranges of life age and mental age, who individually may develop in intelligence up to a life age limit of 13 years and not thereafter. The conclusions are induced not merely by the empirical data for each separate investigation, but particularly by the consistency of agreement obtained from such strikingly different methods of approach. Striking differences are observed between the average levels of general intelligence of native whites, foreign-born, and negroes. Striking differences also are found for different social classes of native whites, different nationalities of foreign-born, and different geographical groups of negroes. A logical fallacy is exposed in the application of mental age limits to the diagnosis of normality and feeble-mindedness. The conception of borderlinity in relation to mental age is much extended. The calculation of intelligence quotients is found to be seriously disturbed by the uncertainty of the exact life age at which intelligence development is to be considered complete on the average. The standardization of mental age scores for ages above 13 years by any method other than the percentile scores is not attempted, but is found to be impeded by the difficulty of obtaining fully representative unselected groups of subjects outside the grammar schools.

JORDAN, A. M.: "Some Results and Correlations of Army Alpha Tests," *School and Society*, 1920, 11, pp. 354-359.

This study considers (1) the median number of points secured by the various classes and colleges of several institutions of higher learning, (2) the correlations of Alpha and high school records of the students in the University of Arkansas, (3) the correlations of Alpha and the university grades and the correlations of some of the individual tests of Alpha and the university grades, (4) the correlations of high school grades and those of the university, (5) the correlations of a combination of high school grades and Alpha with university grades, and the correlation of this same combination with college English and finally (6) the correlations between the grades of university students in their different subjects. The scores of freshmen in 5 institutions considered range from 119 to 142 (median). In all cases engineers stand higher than students of agriculture. Correlations of Alpha and high-school grades is about 25. Correlation of Alpha and freshmen grades is considerably higher. The arithmetical tests of Alpha correlate better with mathematical grades than does the entire test. The correlation of Alpha with the average of freshmen grades is about 48. High-school grades and freshmen grades seem to correlate better with each other than with Alpha. The question of "critical scores" is raised. In the Arkansas material no person who was above median in Alpha

averaged as low as 50 in college grade. No person had an average grade in college of 87 or above, whose Alpha score was below the median. The highest correlation between the various college subjects was that between English and psychology which was .667; the lowest between mechanical arts and chemistry which was .37.

TOOPS, HERBERT A. and PINTNER, RUDOLF: "A Chart for the Determination of I.Q. Values," *Journal of Delinquency*, 1918, Vol. 3, p. 272.

This chart is a graphic representation of intelligence quotient values for different grades of performance at different ages. It is most useful as a desk sheet for the frequent user of the Terman scale, on which it is based. It is unfortunate that presumably owing to increased cost the chart is not printed in two or more colors. Its ease of reading would be vastly increased by such a feature.

BINGHAM, W. V.: "Measuring a Workman's Skill," *Bulletin No. 30, National Society for Vocational Education*, 1919, pp. 4-11.

By the time that mobilization ceased in November, 1918, standardized tests in about eighty of the more important trades were in use. The cost of production and standardization of the tests was on the average roughly a thousand dollars a trade. After analysis of the trade comes construction of a tentative test. This sometimes takes the form of a performance test, a job arranged so as to require of the candidate a demonstration of his manual proficiency and his judgment in the use of the main tools of his trade. Other tests are entirely oral, consisting of questions to elicit definite bits of trade knowledge, to sample the range of the candidate's practise, and to try the soundness of his judgment on typical matters. A third type of test, similar in principle to the oral test, presents to the candidate pictures of tools, machines, materials and products of his trade, and requires him to identify them and to indicate uses. Not infrequently the tentative formulation of the test has proved inadequate. Only after a test had been devised which was found on thorough trial to measure up to the requirements, was it turned over for use with the soldiers.

In beginning the trade test development it was expected to meet numerous difficulties due to the prevalence among manual laborers of this variety of mental constitution. It was expected to find that the oral type of tests would prove useful with the more verbally minded men; but we anticipated meeting many tradesmen of high proficiency and skill who could do little or nothing with these oral questions. This expectation proved to be wholly at variance with

the facts. The journeyman and the expert differ from the apprentice not so much because they have greater manual skill and dexterity as because they excel in judgment, technical information, or trade knowledge. Of course this is not the case in some occupations, such as truck driver or typist. But in most of the trades the actual performance testing of a man on the manual job can be omitted without great loss to our knowledge of the man's proficiency. An oral test prepared in the manner already described is more effective than a performance test in separating journeymen from apprentices and experts. The obvious implication is that dexterity and manual facility in doing a job are relatively less important than knowledge of when to do it or which tools to choose. No generalization more suggestive for industrial education has emerged from our work than this, that superiority in trade proficiency resides more often in the head than in the hands.

Technical interviews will resemble oral tests in that they will consist of precisely such questions as have been found most useful in the oral trade test. But they will not be administered with such rigor of procedure, nor will they yield a numerical rating.

BURTT, H. E.: "Partial Correlations on a Slide Rule," *Psychological Bulletin*, 1919, 16, pp. 240-242.

A method is described for partial correlation work with the substitution of the slide rule for Kelley tables. Little difference appears in speed or accuracy. The slide rule does not appear noticeably more fatiguing and is convenient in checking over work done with the tables. Partial correlation work is thus readily open to anyone skilled in the use of the slide rule even though he may not have access to Kelley's monograph.

FEARING, FRANK S.: "The Value of Psychological Tests in Psychiatric Diagnosis," *Journal of Abnormal Psychology*, 1919, 14, p. 196.

The following points seem to demand emphasis: (1) Diagnosis on mental cases should not be made on the basis of test scores alone. (2) A wide range of scores is significant in differentiating psychiatric types from feeble-minded types. (3) The reactions of the subject during the performance of tests is as important as the test score. (4) The performance of the Binet-Simon or some other standardized intelligence scale is an important part of the clinical picture in all mental cases.

BRILL, A. A.: "The Empathic Index and Personality," *Medical Record*, Jan. 24, 1920, pp. 1-12.

Freud has conceived that *folie à deux* is a self-identification of one of the patients with the other. As one departs from these extremes one meets more refined forms of identifications as seen in normal identifications and fancies. Students may imitate favorite teachers and show it in many ways; this may be conscious imitation, but is usually quite unconscious. The self-identification of the child with the parent is similar. True identification is altogether an unconscious process. Once it may have been conscious, but has become as it were a second nature. For some ten years the author has asked most patients during the first interview "what personage from history or legend do you admire most, or whom would you consider your ideal?" It is presumed that this person expresses in his life the conscious and unconscious strivings of the patient. 90 per cent. of the male answers are confined to five persons in history. Of 586 male adults, 396 answered Napoleon, 101 Lincoln, 38 Cæsar, 26 Washington, 16 Frederick the Great, 9 scattering. 70 per cent. thus idealized Napoleon. Of the whole number, of whom some 350 were Christians, only 2 answered Jesus. The intelligent person thus admires most a man of action who can put into operation those impulses which he himself would wish to live through but can not or dares not. Of the two persons answering Jesus, one was a physician who had given up practise and lived on a ranch, the other was a literary man of independent income. Napoleon and Cæsar express the aggressive opponent common to all male animals. The term empathic index is used to designate the person chosen as the ideal. The author finds that nicknames given by playmates or acquaintances usually show the empathic index. In examining the empathic index of persons having morbid fear of the draft such indices were found as Benjamin Franklin, Pestalozzi, Florence Nightingale. The empathic index is somewhat influenced by age. Of the 101 answering Lincoln the majority were over 38 and 90 per cent. were married. Lincoln was also given as second choice by many who first answer was Napoleon. Napoleon and Cæsar represent the absolute primitive, while Lincoln represents a sublimation of it. The empathic index in boys of kindergarten age, is regularly the father. Among the women Lincoln and Washington seem to stand highest and men are nearly always named. The empathic index furnishes a new and quick method of observing the person's mode of adjustment.

JOURNALS AND NEW BOOKS

AMERICAN JOURNAL OF PSYCHOLOGY. October, 1919.

Possible Effects of the Imaginal Type of the Subject on Aphasic Disturbances (pp. 327-336): SAMUEL W. FERNBERDER. - No attempt is made to hold a brief for any particular theory of strict localization of the language functions. That schema must be supplied by the neurologists. We have attempted to show that there are no valid theoretical reasons why such an envisagement of the problem is not proper and possible. *Psychology and History: Some Reasons for Predicting their more Active Coöperation in the Future* (pp. 337-375): HARRY ELMER BARNES. - The attempt is made to trace the development of scientific historiography to the point where it has provided a vast storehouse of relatively accurate data for the historian. It is also shown that work in this field of collecting sources is beginning to be supplemented by the next natural development of historical science. *The Neural Correlates of Instincts and Habits* (pp. 377-405): CARL WILLIAM BOCK. - In a previous study the author showed in what kinds of group activities untrained subjects generally beat, and how they could be classified. In the present paper the author presents the same kinds of facts in relation to certain new kinds of facts and shows how such facts may be employed analytically for the determination of the properties of the nervous system. *A Note on the Psychology of Vitalism* (pp. 406-414): FREDERICK G. HENKE. - The question of vitalism and mechanism from the point of view of psychology does not resolve itself into an antithesis; not "either . . . or," but "both . . . and" expresses the relation between the two. Man is both vitalist and mechanist. *Minor Studies from the Psychological Laboratory of Cornell University: XLIV. On the Lapse of Verbal Meaning with Repetition* (pp. 415-418): M. F. BASSETT and C. J. WARNE. - Given a stably passive attitude on the part of the observer, the meaning of a familiar monosyllabic noun repeated aloud three times per second drops away in about 3 to 3.5 seconds. Meaning may lapse suddenly or die out gradually. *XLV. The Adjustment of the Hering Color-Blindness Apparatus* (pp. 419-422): M. COWDRICK and M. WINFIELD. - We have no evidence that the *Anweisung* to the use of the Hering Color-Blindness apparatus was ever distributed. If it is not, the reason may lie in the fact that the instrument is valueless for comparative purposes if set up in diffuse daylight, and that Hering was reluctant to commit himself to any specific source of artificial illumination available at the time when the apparatus was constructed. *XLVI. Adaptation of Superficial Pain* (pp. 422-424): H. H. STRAUS and R. F. UHLMANN. - Authors rarely discuss adaptation in connection with pain. The writers are interested in making out the exact conditions

under which adaptation of pain may be experienced and to determine the times of adaptation with various intensities of stimuli. *Minor Study from the Psychological Laboratory of Stanford University* (pp. 425-426): GERTRUDE M. TRACE.—A new tapping instrument for laboratory use is described and illustrated. *A Foot-note*: "Authorship of the Book of Mormon" (pp. 427-428): WALTER FRANKLIN PRINCE. *Book Notes*.

Beaupin, Abbé. *Les Catholiques et l'après-guerre*. Paris: Blond. 1918. Pp. 159.

Joseph-Barthelemy. *Le probleme de la competence dans la democratie*. Paris: Felix Alcan. 1918. Pp. 266. 6 fr.

Denis, H. *Discours philosophiques*. Paris: M. Giard & E. Brière. 1919. Pp. 332. 13 fr. 50.

NOTES AND NEWS

Logos, an international philosophical review published by Professor Antonio Aliotta and a group of collaborators, has resumed publication with the issue of January-March, 1920. It undertakes to publish articles in Italian, English, French, German and Spanish, with a résumé in French of all articles not written in that language. The current number opens with an eloquent plea by Professor Aliotta for international cooperation in philosophy and science. All communications should be addressed to Professor Antonio Aliotta, Università, Naples.

DR. JOHN M. MECKLIN, formerly of the University of Pittsburgh, has been appointed professor of sociology at Dartmouth College.

DR. H. T. COSTELLO, of Columbia University, has been appointed professor of philosophy at Trinity College.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE PLACE OF LIFE IN NATURE¹

IT is a peculiarity of our status as self-conscious beings, whose existence and activities are bound up with the special form of material organization called vital, that life appears to us as the central and all-important fact of nature. The qualities of living beings are always present to our attention. In most of us the feelings of activity, energy and spontaneity are strongest when organic life is strongest—when we are most “alive;” the popular meaning of the word *vitality* comes from this fact; and the naïve tendency has always been to ascribe a special freedom or originaive capacity to life, and to regard the non-living part of nature as something radically different from the living, as something inferior—or basely mechanical. But obviously this view, as the product of prepossession rather than reasoning, can have no scientific or evidential value in relation to the problem of the place of life in nature. Most of us can remember wondering as children at the absurd self-importance of inferior animals like house-flies; later on we find that this curious self-regarding attitude of living beings is simply one of their general or “class” characteristics, shown even by plants. It would appear therefore that when man—who is certainly not the least egoistic of the animals—assigns to life a position of central importance in the cosmos, he may be merely furnishing another example of this natural propensity, which has its biological origin in the inherently self-conserving or self-protecting tendency common to all organisms. This property is a necessary condition of organic survival; it is an example of what is called an “organic regulation” and even has its analogies in various automatically regulated mechanical devices. We must face the possibility that in reality life has no unique or privileged position in nature, but is merely one out of the many purely casual and inessential results of the operation of blind natural forces. At least a biocentric conception of the cosmos must

¹ Paper read at a meeting of the Royce Club, Harvard University, April 11, 1920.

justify itself on other grounds than those of the instinctive human prejudice.

I propose this evening to discuss the question of how life is related to the rest of nature, the greater part of which is non-living in the usual understanding of the term. How is this peculiar and special development which we describe as *living* to be derived from a cosmos which close observation shows to be subject everywhere to rigid determination by mechanical and mathematical laws?

What, then, is the essential relation of life to the cosmos? In earlier times mankind regarded the world and its inhabitants as something emanating from life, as created and sustained by the volition of a living deity or deities, and as subject to more or less arbitrary divine—or sometimes diabolical—intervention; life was the primal cause or originating condition of things; the deity breathed into his creations the breath of life; by this action something not previously present was added to nature; in a word, the source of life was “supernatural.” How far we have travelled from this naïve belief in these scientific days I need scarcely remind you. To most of us, especially biologists, life is not a primitive but a comparatively recent and derived phenomenon, one product of the evolution of a cosmos which at first was entirely non-living; in the temporal or historical progress of nature complex or “heterogeneous” systems, including finally life, by degrees emerged from the originally indefinite or homogeneous primordium (to paraphrase Spencer); life as thus conceived is not a primary agency, but a secondary and somewhat exceptional derivative of the natural process. This view seems now firmly based on naturalistic observation; and in fact it is usually regarded as a summarized objective description of what has actually happened during the past several million centuries.

The question of whether or not to accord primacy to life is perhaps not one to be settled by observation alone. When we view cosmic events in their historical succession it seems certain that life is a later rather than an earlier appearance in nature; there is no doubt that the physical conditions on the globe were incompatible with the existence of living matter until a comparatively late stage of planetary evolution. But the argument from the geological succession of life on the earth is an equivocal one and not decisive, since its opponents may well reply that the very appearance of life at a certain stage implied its previous latency; how otherwise in a mechanistically controlled world could it ever have come into existence? The character of the dilemma is evident; in any physico-chemical view of natural evolution the causal chains extend back

indefinitely and uninterruptedly; whatever appeared at any time or place in the sequence was in this sense predetermined—had a series of mechanistically interconnected events leading up to it. The reference to preexisting causes thus stretches back *ad infinitum*, and whatever existed at any time, however remote, must be referred for its ultimate causal determination to what we can only call, however vaguely, the original constitution of nature. Yet it would seem that we can not assign a physical but only a metaphysical meaning to this phrase. Claude Bernard recognizes this dilemma and comments upon it, but without concerning himself greatly, since he was satisfied that for the solution of concrete scientific problems (in which he was mainly interested) only physico-chemical or experimental methods have any real value. Apparently it is now agreed among philosophers that causality, while a constant feature of natural existence, as it presents itself to our senses, is not a factor to be appealed to in accounting for ultimate origins.

Defining the situation in this manner enables us to formulate the alternatives of the problem somewhat more clearly. We may put the matter thus: Is life a development from physical nature, peculiar only in expressing or exemplifying in an intensified or centralized form certain fundamental features or tendencies of natural processes? Or is it a special agency or activity set apart from non-living nature, having peculiarities which are sharply contrasted to the inorganic and not derivable from it? These would seem to correspond to the alternatives of a natural *or* a supernatural mode of origin. If life is a product of natural evolution, is it an expression of a deeply rooted or essential property or characteristic of nature? or is it a casual product, one of the many purely mechanical effects of what used to be described—in a phrase vaguely irritating to many persons—as a fortuitous concourse of atoms? It is to be noted that the former alternative recognizes a certain preexisting trend or directive tendency, reaching eventually its expression in living organisms; and it therefore seems more consonant with a vitalistic interpretation; the underlying “urge” or originative impulse which is postulated might be designated by Bergson’s term, *élan vital*. The other is the mechanistic alternative, which regards the peculiarities that seem to set life apart from other natural processes as simply the result of the physical and chemical properties of the special material complex called *protoplasm*, especially its properties of constructive metabolism and growth, which are dependent on certain special and primarily accidental features of its physico-chemical constitution.

Let us now consider life as a fact of external nature and inquire

what are the objective criteria of living as distinguished from non-living matter. First we observe that living matter is not found diffusely distributed, but always as forming a part of some special organism. Many individuals of each species, similar in their activities and structure, are found, each in its appropriate habitat. The existing species of animals and plants are as a rule true to type and readily distinguishable from other species; individuals of the same species are closely alike, although somewhat variable. Thus the repetitive tendency, universal in non-living nature, exhibits itself also in living organisms; but living species are on the whole more clearly defined and exhibit fewer intergradations than non-living species, *e. g.*, of minerals; a highly specialized and individualized character seems to belong to the forms of living matter. But all of these forms have in common certain highly definite class properties, not ordinarily met with in non-living matter; and it is first necessary to state these as clearly as possible.

Living matter is sharply distinguished from dead matter by various remarkable peculiarities of activity or behavior, and by a unique physico-chemical and structural composition. The most striking feature of its activity is its power of growth or self-multiplication; this is shown by all of its forms, from the lowest plants to the highest animals. With the property of growth is to be included that of reproduction, which has been defined as discontinuous growth; *e. g.*, a cutting from a plant will grow into the complete organism under appropriate conditions; so also will a seed, which is equally to be regarded as a detached portion of the parent organism; and similar conditions are found in animals (regeneration, sexual and asexual reproduction), although here the extraordinary complexity of the process by which a fertilized egg develops into the adult seems to give the reproductive process a special status of its own. Even in this case, however, the essential nature of reproduction as orderly and specific growth toward a definite final organization is clear enough. All living material, then, is *growing* material—at least in certain stages of its existence, for there are natural limits to the increase in size of the individual in higher plants and animals—in other words, it is *synthesizing* material; and this brings us to what is apparently the essential feature of living organisms, considered as physico-chemical systems. All living matter is more or less continually engaged in transforming unorganized materials and energy taken from the surroundings into organized living material of its own kind. It thus tends automatically to add to itself; what is appropriated from the surrounding non-living world is actively transformed into its own organized and active living substance. This

transformation is *specific*; i. e., a special type of living matter or protoplasm, with a chemical composition, structure and activity identical with those of the original protoplasm, is formed. Each portion of protoplasm thus serves as a center of construction of similar forms. This condition has certain analogies to "germ-action" in inorganic processes, such as crystallization, but on the whole is a unique and distinctive property of living organisms. This property depends on certain highly definite processes of chemical transformation which have their special or individual characteristics for each species of protoplasm. If we put two different species of yeast or bacteria into the same culture-medium, each builds up protoplasm of its own kind; i. e., each effects a special predetermined kind of chemical transformation in the materials which it incorporates from the surroundings. Each has the same external materials as its source of supply, but each transforms them in its own specific way, and hence builds up a special kind of protoplasmic structure which, having a special physico-chemical constitution or organization, exhibits corresponding special activities. The term *specificity* denotes this peculiarity. We thus conceive of each cell or each portion of protoplasm as primarily a center of specific chemical transformation or synthesis. Its other specific properties follow from this, including its power of maintaining these characteristics intact and transmitting them to other portions of living matter arising from it in growth or reproduction. "Heredity" is the name usually applied to this latter process; but it is important to note that the power of reproducing or replacing itself is one which is at all times active in living protoplasm. The living substance is continually being chemically decomposed or broken down by its own energy-yielding processes (usually oxidations of some kind), and unless there is a compensatory process of construction or replacement it sooner or later ceases to exist as living. The processes of specific construction must therefore balance or exceed this destruction if life is to continue; excess of construction implies growth, or increase in the quantity of living organized protoplasm; and reproduction is an aspect of growth, as already pointed out. In this sense "heredity" is always being manifested in living organisms; as Haldane puts it, "heredity is for biology an axiom and not a problem," i. e., when dealing with living matter biologists assume or take for granted its specific transformative and synthetic power, just as chemists take for granted chemical affinity. The physiological units of the speculative biologists (gemmules, pangens, ids) have always been endowed by their creators with the property of automatic self-perpetuation and reproduction; and just at present this property is assumed without

further question to be possessed by the chromosomes, which most geneticists regard as the bearers of hereditary qualities in higher organisms. But in the physiological sense no such theories of heredity can be regarded as ultimate; if chromosomes (*e. g.*) determine the appearance of certain special characters in organisms (as now appears almost certainly to be the case), what determines the appearance of the special qualities possessed by a given set of chromosomes themselves? Surely not a second set of chromosomes —*i. e.*, similar physiological units of a lower order? Evidently these would require a third set of determinants, and so on *ad infinitum*, like the fleas in Swift's epigram. But the facts of physical science forbid any such *regressus*, since limits to divisibility are set by the atomic or electronic constitution of matter. The self-multiplying property of living matter is in reality an expression or consequence of the specific constructive side of its metabolic processes, and the problem of heredity resolves itself ultimately into the problem of the physico-chemical conditions determining this peculiar synthetic power.

Specific chemical transformation is the form of physical activity which is essential to living matter. There is an interesting general significance in this fact, for the most striking feature of chemical reactions, as distinguished from other natural processes, is that through their means substances are formed having properties entirely different from those of the original interacting substances. There is always the generation of novelty, the appearance of qualities and modes of behavior not deducible (at least at present) from those of the parent bodies; and it is this peculiarity which has enabled the life-process to create out of carbon compounds, salts, and water such a multitude of novel and varied forms. The synthesis of special chemical compounds in metabolism, in special structural and other relationships, thus makes possible the appearance of the qualities which we call vital. All living beings are primarily products of metabolism, in this general sense; they are formed, maintained, and perpetuated by processes of chemical transformation. They represent, in the purely physico-chemical sense, special collocations of matter and energy; and yet their synthesis in the manner broadly indicated necessarily involves the synthesis or creation of many other properties and modes of action which are of a different and higher order and give rise to the special conception of *vital*. The chemical process is the foundational one, but it brings into being systems having qualities whose existence could never have been predicted from a consideration of the chemical processes alone. These "vital" qualities have properties of their own requiring special modes of consideration and investigation.

The organism is undeniably a physico-chemical system, but it is something else in addition. We come now to a consideration of the more specifically vital properties.

How can such complex systems as living organisms maintain themselves or even continue to increase and multiply in a nature which seems on the whole unfavorable to the preservation of special configurations of a complex type? Part of the answer has already been indicated. An organism maintains itself because its dissolution is normally balanced by an accompanying reconstruction; its materials and energy are replaced as rapidly as they are lost or destroyed, and hence the dependent vital characters, however complex they may be, are enabled to persist. In this general respect living organisms resemble certain other natural systems whose permanence also depends on the maintenance of a balance between integrative and dissipative processes of various kinds; a candle-flame, a whirlpool, and fireworks such as the "devil's fountain" are instances; their persistence and individuality are due to an automatically controlled balance of diverse activities. The general class of physical conditions called *equilibria* enters here. Experience shows that two equal and oppositely directed forces or tensions produce where they come into contact a stationary condition, permanent unless disturbed; static equilibria, as in a balance or a stretched spring, are of this kind. Hence such equilibria can be represented by mathematical equations—a certain duality being recognized in the conditions determining the permanent state in question. The class of equilibria represented by organisms is of a more complex kind; they represent equilibria of processes, often called "dynamic equilibria." Any number of separate processes or activities, whose effects, taken singly, are of the most varied and frequently opposed kind, may be so coordinated that the total or resultant system preserves a constant recognizable character or unity. The component activities may be collected into two groups, which may also conceivably be symbolized by the expressions on opposite sides of an equation, the constructive or integrative processes of the one side balancing the destructive on the other. Each group, taken collectively or additively is equal and opposite to the other in its total or resultant effects; hence the two compensate each other and produce a stationary total condition. Thus when constructive and destructive metabolism in a living organism are equal there is balanced maintenance, indicated, *e. g.*, by nitrogenous equilibrium; when the one or the other exceeds there is either growth or regression. In all organisms the conditions making for dissolution are various. Take the case of a simple marine plant or unicellular animal as an illustration: the mechanical and chem-

ical action of the environment, the tendency of protoplasmic materials to diffuse into the surrounding sea-water, and especially the continued oxidation of protoplasmic constituents and loss of carbon as CO_2 , all combine to diminish the living substance; this loss is replaced during life by the intake and transformation of food materials. When, however, the synthetic processes cease, as at death, the destructive processes are unbalanced and the organism is quickly disintegrated. On the other hand, with an abundant food-supply and otherwise favorable conditions the synthetic process may predominate and lead to indefinite growth and reproduction.

Now this conception is applicable to all forms of life and also to life in its totality; its persistence implies that disintegrations are balanced or overbalanced by integrations. In the extraordinary diversity of organisms we find an infinity of different means by which this vital balance is maintained. When it is not maintained, as repeatedly happens in nature, a species becomes extinct. Living and stable species are therefore found to be organized in such a way that their persistence and perpetuation are ensured by all kinds of structural, chemical and behavioristic peculiarities and devices. These are usually called "adaptations," especially in those cases when some special feature of the environment is provided against: thus low temperature in the surroundings is countered in mammals by special thickness of fur; scarcity of food is compensated for by the special development of senses, intelligence and activity, as in most carnivorous species; enemies are thwarted by protective structures and modes of behavior. To particularize is unnecessary, since we are now interested in the general rather than the special characters of living beings. In all such cases the adaptation represents a condition which favors the persistence of the vital equilibrium—something which enables the individual or the species to survive, especially the species, since cases are numerous where individuals are sacrificed to secure the survival of the species.

In general what we mean by an "adaptive" feature in an organism is some special peculiarity of structural organization or activity that directly aids in preserving the organic equilibrium, *i. e.*, in securing survival. A few concrete examples of internal and external adaptations will illustrate. The arrangement of the valves in the heart is adaptive, since it ensures the constant flow of blood in one direction and hence the constant supply of food and oxygen needed to maintain the cells composing the organism. The camera structure of the eye is adaptive in enabling the animal to react effectively to the stimulus of light waves reaching it from different directions of space—these light waves being indicators of the presence and situation of physical objects which are thus dis-

criminated. A countless number of special adaptive structures and habits have reference to the special features of the animal's environment: arboreal creatures have special clinging devices; parasites are curiously protected; predatory animals are usually swifter, more powerful and more intelligent than their prey; the special instincts of an animal are its congenital adaptive modes of behavior. In brief, unless a character in some way definitely furthers continued existence in an environment it is not classed as an adaptation; its criterion as adaptation is that it favors the persistence of the species. To put the matter concisely, adaptation is a form of equilibration. This characterization expresses of course only the most general significance of adaptive characters and neglects the infinitely various details.

Physiological science is not yet in a position to account for the development of the special mechanisms involved in the adaptive actions of organisms, or even to explain their mode of operation in their finished and active state as parts of the adult organization. Thus there is still uncertainty about the mechanism of muscular contraction (although the indications are that a muscle is an electro-capillary motor); and everywhere similar difficulties confront us. These arise chiefly from the unexampled complexity and delicacy of living structures and mechanisms, whose characters furnish at once a support to vitalists (like Haldane and Johnston), and a challenge to the mechanists, who see in the regularity of vital action a proof of its complete conformity to physico-chemical law. It would seem, however, that the *scientific* difficulty is mainly one of analysis and will become less with time and the progress of research. Probably the chief reason why the structural features, chemical properties and activities of organisms are so remarkable and so difficult to duplicate in artificial systems is that the material composing the living organized structures is always *metabolizing* material, of the kind characteristic of life. Structures which would be impossible (because impermanent or unstable) in material having no such automatic power of self-replacement are capable of permanent existence in living organisms; hence the possibilities of organized structure and activity are enormously increased. The structural organization present in the nervous system of a thinking human being is of a type whose stability is rendered possible only through the ceaseless metabolic activity of the living substance, in which the tendency to reach static equilibrium is continually offset by new construction. Regularly acting mechanisms which otherwise would be too delicate and complex to have more than an evanescent existence are thus rendered permanent; and with their continued existence and operation possibilities of activity are intro-

duced which would otherwise be unattainable. Such possibilities are indefinitely great, and correspondingly the capabilities of a highly developed and trained nervous organization have no assignable limits.

These considerations make it clearer what kind of a system, in the physico-chemical sense, the living organism represents. Evidently the constituting elements or essential distinguishable components of a living organism—considered as a system in equilibrium with an environment—are only in part static conditions; they consist largely of events, processes and sequences, often prolonged and highly complex. The phenomena of life show in a most striking manner how temporal processes or successions of processes can be organized into stable groupings or equilibria, just as certainly as can static conditions. Take an elementary instance: in a human being the swallowing of food initiates a sequence whose details are largely known to physiologists; upon the regular succession of interconnected events and processes which follow, constituting digestion, absorption and the rest, depends the continuance of the individual life. The first stage of the total sequence determines the final and intermediate stages, in a manner which is none the less constant and dependable because it is indirect; if the normal sequence be deranged, the organic equilibrium is disturbed and death may result. Such an illustration indicates clearly the kind of organized or equilibrated whole which an organic individual represents. A still more striking illustration of the living or organic type of constitution is seen in the regular sequence of developmental processes connecting one generation with the next; the continuance of the species in nature depends upon the regular repetition of this sequence. Yet in spite of the inconceivable complexity of the process of embryonic development, it is a perfectly definite, constant and unified process, of such a kind that when its initial event is determined (in fertilization) the whole sequence is also determined. Of course such a sequence may be modified or interrupted by outside agencies; normally, however, it represents a characteristic “natural constant” for each species, and is an essential factor in its continuance, *i. e.*, in preserving its equilibrium with external nature. Such an example illustrates perhaps more clearly than any other the essential nature of vital organization; it is an organization or integration of *processes*. There is no limit to the complexity of the single processes, provided their constancy is assured; and also no limit to the complexity of the integrated product, the living organism. Apparently there exists a popular impression that when consequences are indirect and require time for their appearance they are less certain than if they are direct; the above instances show that they

are no less certain; the difficulty is to trace the intermediate events and their interconnection. Highly indirect consequences of the most perfect uniformity and reliability are frequent, one might say the rule, in living organisms. And it is as an organization of processes which are equilibrated, *i. e.*, so interrelated and integrated as to secure persistence and unity to the whole living system in its environment, that life occupies its unique position among the phenomena of nature.

Many of the most characteristic manifestations of life in nature are referable to the innate tendency of living matter, as growing or self-multiplying material deriving sustenance from outside sources, to increase indefinitely in quantity. The limit to this increase—supposing other conditions, like temperature, to be favorable—is set by the supply of available transformable material; presumably if all substances were equally assimilable, the whole of nature might thus be transformed into living protoplasm and the products of its activity. Coal fields and tropical forests are illustrations of how far this process has extended at certain times and localities; and in a somewhat different sense the transformation of the world through human activity illustrates the same tendency.

Since each organism transforms the materials that it assimilates *specifically* into its own kind of living organized system different from others, the inevitable result follows that those organisms which are most effective in securing and transforming these materials increase at the most rapid rate. If we put a yeast cell into a solution containing sugar and the appropriate salts, in course of time these substances are transformed into yeast protoplasm; if several cells of different species are introduced, several different kinds of protoplasm are produced, in quantities determined by the relative transformative or metabolic capabilities of the species. Such facts indicate that wherever organisms are present a tendency results for all assimilable compounds in the environment to be transformed into living substance; and there seems to be no doubt that there actually exists in nature a general tendency of this kind, however it may be interpreted philosophically. To physical science this tendency appears simply as a necessary result of the property of automatic growth and propagation characteristic of protoplasm. This peculiar appropriative property of life, which is apparently an accident of the special chemical constitution and structure of its physical basis, introduces into living nature the element of competition or struggle, which since Darwin's time has been recognized as a main factor determining the direction of organic evolution. Only those organisms can persist in free nature which possess the means of securing the material and energy required for their main-

tenance and increase; accordingly, since the supply of transformable material is limited, the characteristic situation arises which is described (in anthropomorphic terms) as the struggle for existence, with its result, the survival of the fittest. It is curious to see how what appears to physiological science simply as an automatic activity of systems possessing a certain physico-chemical constitution has resulted in the spread of life over the whole earth, with all of its extraordinary diversification. The original appearance of life might thus conceivably have been due to some primarily accidental collocation of materials, producing a system having the power of automatic specific transformation and growth. Any such system having thus arisen would inevitably persist and spread, provided the substances and physical conditions necessary for its growth were present. For example, the production, through some chemical accident, of a photochemical transformer like chlorophyll would enable the organisms possessing this compound to spread wherever there was a supply of carbon dioxide, salts and water. We observe in fact that green plants cover the whole earth, and that the greater part of organic life is directly or indirectly dependent upon them.

There is an apparent quality of exclusive self-reference in all organisms, due to the specific assimilative element in their constitution. This fact is in no way inconsistent with the development of interdependent relations between the individuals of a species, as seen in the social animals, or even between different species, as in symbiosis. Such conditions may be regarded as forming the physical basis on which altruism has evolved in the higher forms of life; it should be noted, however, that they can persist only in so far as they favor (or at least are compatible with) organic survival. What we describe as the egocentric property of conscious organisms appears to objective science simply as a manifestation of the characteristic vital assimilative capacity, which, being specific for each organism, has the effect of making each act as if it were the expression or objectivation of a definite "purpose," that purpose being to maintain and multiply itself and its own species. At least it is objectively true that unless the organic activities have this result in the long run, extinction follows, as a purely physical consequence. No one can ascribe selfishness, except by metaphor, to a weed which chokes out all the fairer plants in its neighborhood; and yet the property which such an organism exhibits, and which is physiologically necessitated by its own innate type of constitution, has an obvious resemblance to the conscious and acquisitive selfishness shown by human beings under certain conditions. The curious and seemingly inexplicable dependence of consciousness upon the

physiological processes in a particular single organism—what we call personal consciousness—is a phenomenon which gives to the intellectual and psychic processes, so highly developed in man, the appearance of being essentially biological functions, developed like other functions in the interest of organic survival. The selfishness of persons, social groups and nations would thus appear as something rooted in the elemental physical nature of organic life, and hence inescapable. But this view has its limitations, and need not disturb those who still believe in the possibility of transforming life and nature in the direction of realizing or objectifying the higher human ideals. Such ideals have a reality, a fundamental part of which is the physical reality of living beings; hence they have transformative and reproductive capacity—*i. e.*, the potentiality of indefinite multiplication and self-realization which is inherent in all life is theirs also. The qualities of the best life are thus capable of survival, increase and eventual dominance, equally with those of inferior life—probably more so, since all persistent life requires the maintenance of equilibria, and equilibria are more stable when disharmonies, destructive elements and other incompatibilities are absent.

So far I have been considering life as a development or special derivative of physical nature, and have dwelt chiefly on its physico-chemical properties and aspects. But these form only a part of its total reality; this is shown clearly by our own conscious experience. Many other sides of our problem would require consideration in a complete discussion; but time does not permit of this, and I am also not sure of my qualifications for the task. There are, however, certain more general considerations which I wish to bring forward, necessarily in a somewhat summary form, as having an intimate bearing on the more fundamental aspects of our problem.

Observation seems to show that the living organism, as a part of nature, exhibits all of the general or fundamental characters of natural existence, but in an intensified and centralized form; *i. e.*, the organism is an epitome or summarized expression of certain essential and innate properties or peculiarities which pervade the whole natural process. The complexity, specialization and diversification of living beings correspond to certain definite natural tendencies carried to an extreme; similarly with their spontaneity and originative or creative capacity. How then are we to interpret nature as a whole? A true interpretation would enable us to comprehend the two apparently contradictory aspects of organisms, (1) their physically determined or mechanistic character, existing in combination with (2) their apparent freedom of action and creativeness, the latter being seen especially in human beings. At present

among biologists the mechanists and the vitalists form opposed groups; yet it seems certain that there is no necessary or irreconcilable contradiction between their views. A free or purposive agency may be mechanically actuated, *i. e.*, may exhibit complete mechanical interdependence between all of its parts and processes; nevertheless in its ultimate determination other factors than the mechanical may enter. It still seems to me that the case of an artist working with mechanically refractory material illustrates this general type of situation; he may master his material only in so far as he is familiar with its mechanical properties and behavior, and conforms his own action to these. The material undergoes no change except as acted on by mechanical forces, but these are directed and coordinated by the conscious intention of the artist.

The problem is difficult, and I can do no more at present than to indicate what seems to me the probable direction in which its solution lies. It is a problem for both physical science and philosophy, especially for a philosophy which is rigidly critical and demonstrative in its method, rather than speculative, since our purpose is to obtain a clear and valid conception of the present actuality, rather than to develop ideas which appeal to ingenious and imaginative minds as representing interesting possibilities.

Nature, as it presents itself to our observation, has its highly general or universal as well as its particular aspects. It is at once a continuum and a tissue of separate events. Repetition is its most pervading characteristic, at least when its details are considered. This repetitive character seems fundamental to reality in general; it forms the basis of logic in the mental sphere, and of stability, uniformity and regularity in the physical sphere. Yet the whole natural process does not seem to be repeated (in spite of Herbert Spencer's contention), but has a progress or trend; scientific observation indicates this, and the physical law of dissipation seems inconsistent with any other conception.

We have then in natural reality a combination of a regular or repetitive structure (equivalent to law-abiding or logical) with a forward and apparently irreversible trend or activity ("becomingness") which is perpetually generating novelty. This novelty appears to scientific observation as derived from changes in the configuration, position, and modes of interaction of certain persistent entities or objects whose characters remain unchanging. In the physical sphere these appear as atoms or electrons; the quantum theory also attributes atomism to energy. A diversity or manifoldness arising from the varying combination of similar ultimate elements, *i. e.*, some kind of an atomism, would seem inherent in the natural constitution of things.

Now physical atomism seems to be related to the general characteristics of space and time. Just as one portion of space or time is similar to any other, so any condition originating in space and time is persistent and unchanging only in so far as it conforms to this general characteristic of spatiality and temporality. Hence the electrons, *i. e.*, the ultimate persistent or unchanging spatio-temporal elements of physical reality, are all alike; *e. g.*, all electrons are equal in the physical property of mass or inertia, a quality defined by a relation, *viz.*, acceleration, dependent on fixed spatial and temporal conditions. Thus there exists in nature a stable, unvarying or permanent foundation on which development can proceed. No development, but only chaotic conditions, would be possible without an underlying permanence and stability in the ultimate constitutive elements of physical reality and in their mode of action. On this much it would seem that all scientifically and logically trained minds can agree.

The repetitive and orderly quality everywhere observed in nature is a derivative of this foundational stability. And this quality, shown in external nature as the natural laws or constants discovered and formulated by scientific observers, has its close correlative in the repetitive and orderly quality of conscious intellectual operations. These, whatever else they may be, or implicate, *are* a factor in enabling the living organism to deal effectively with external nature. All human experience shows this. Knowledge is a relation of correspondence between the knower and the thing known; there is an adjustment which interrelates the two in a manner favorable to the knower, *i. e.*, he is thereby enabled to act effectively in reference to the thing known. This kind of relation is similar to that observed in external nature between the organism and the environmental objects to which it reacts effectively. The element of adaptiveness or equilibrium is the essential feature in this relation. It would appear, therefore, that the orderliness in both the mental and the physical domains has a common origin and significance. The question of the ultimate basis of this "logical" quality in things is, however, one for metaphysics rather than for natural science.

But there is also in nature an element making for the production of novelty—a creative or synthetical ingredient; this introduces complexities which to our minds often appear as disorder and arbitrariness. Many origins seem at first sight unaccountable; yet when they are traced out in detail they are found to consist of orderly and familiar elements in new combinations. Their discordance or alien quality seems usually due to lack of conformity with other systems or processes which have arisen independently—

i. e., to lack of equilibration. This incompatibility gives the appearance of disorder in nature, and indeed is disorder, in the sense that anything *new* necessarily lacks conformity to established rule at its first appearance; but, given time, all existents which are in free communication settle down into some kind of equilibrium or *modus vivendi*—at least this is true in the physical world. Whether it is true of existence as a whole may be doubtful; the element of conflict seems ineradicable so long as novelty continues to come into existence, for, *qua* novelty, it necessarily encounters conditions which are not in harmony with it and with which in some manner an equilibrium has to be reached—a process requiring time and mutual adjustment.

This combination of conservative and novel elements in the structure of reality makes a different kind of appeal to persons of different mental constitutions, and is what gives rise to the apparently irreconcilable feud between the mechanists and the vitalists in biology. Those men who are most impressed with the essential conservatism and constancy of natural processes as exhibited in the living organism are mechanists; to them the organism is simply a complex machine. Those who are chiefly conscious of the free and novelty-engendering element always present, and most conspicuously in those activities that seem characteristic of the highest vitality—*e. g.*, originality and creativeness in art—are vitalists; such men are often inclined to limit the applicability of physico-chemical methods in physiology. On our present view both are right and both are wrong; the organism in its purely physical constitution is undoubtedly a physico-chemical system, peculiar in nothing but its special qualities of complexity and highly developed specificity; yet to account for its complete characters a reference to ultimates other than the physical seems necessary.

This last consideration is the crucial one. For example, if the regular or conservative tendencies disclosed by natural science were the only ones operative in nature, it would be incomprehensible why the universe is not homogeneous, or at least is not in a state of settled and stable equilibrium, since sufficient time has elapsed for any inequalities of potential to have become equalized, and thus to balance one another wherever they come in contact. The fact that this has not happened indicates the presence of some constantly acting originaive tendency in nature which in some manner compensates the tendency toward a static equilibrium.

The scientific, mathematical or logical description of nature does not pretend to exhaust the concrete detail of reality; nevertheless it undoubtedly expresses accurately many of the permanent conditions to which all phenomena (all existents?) must conform. These per-

manent conditions are the primary or fundamental actualities in nature; and they underlie and make possible the infinite variety of materials, events, processes and developments which it presents to our observation. All of these, except possibly the most elemental realities investigated by mathematics and logic, appear as products of what we may agree to call "creative evolution." This process is also a fact, a tangible actuality in our experience. To call the novelty-producing or creative element in reality "volitional," or to ascribe to it consciousness, purpose and ethical intention, is in a sense to anthropomorphize nature; in any case it can give only a vague indication of the essential nature of the originaive factors underlying development. Still, these factors, if existent in a natural product like humanity, must also be present in some form in the natural process considered as a whole. In all such speculations, however, the implications of language are misleading; and direct experience or intuition of phenomena—in active life as well as in observation and reflection—would seem to be the safest basis for sound and valid thinking. Of course by the term intuition I mean nothing mystical or indefinable, but simply direct conscious experience of the actual phenomena of life and nature, without the prejudices or preconceptions arising from the use of words or other symbols. Scientific observation or intuition (in this sense) discloses as a reality the constant or law-abiding and hence calculable element in phenomena; but superposed on this, and equally real and fundamental, is the creative element which gives nature its character as a temporal or historical process whose possibilities are never completely realized at one time, but always in process of realization. The conflict of opinion which makes metaphysics an alien and often unsympathetic field to students of the physical sciences indicates that something is still lacking in our knowledge of the essentials of reality. There must be some solution of the metaphysical problem on which all clear-sighted, honest and disinterested minds can agree.

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SHALL WE EXCLUDE ELEMENTARY JUDGMENTS FROM LOGIC?

IN his article, *The Logical Status of Elementary and Reflective Judgments*,¹ Professor Lodge proposes to exclude the former from modern logic. He evidently expects this modern logic to be *the* logic of the future, and he has himself "done his bit" towards

¹ This JOURNAL, XVII., 8, p. 214.

that result in his excellent little book, *Modern Logic*, wherein he is so distinctly modern as to ignore the syllogism. His hope is not unreasonable; traditional logic is sadly in need of revision.² Now if modern logic is thus destined to prevail, Lodge's proposal amounts to the total exclusion from logic of all spontaneous judgments. It is true he allots them a place in "the body of thought known as traditional logic," but he thereby practically consigns them to the tomb, since that logic is already moribund.

Grave issues are involved in this proposal. The mere bulk of the logical matter to be discarded is formidable, to say nothing of its intrinsic importance. The criterion proposed as a standard to which all matter retained as logical must conform, is *Beurtheilung*, critical examination. This excludes all spontaneity from logic. Such an elementary judgment as That is a cow, must be regarded with suspicion. It is not a critical judgment, not a "thought about thought." It does indeed seem to be a pretty solid fact; even Professor Lodge would admit that a cow is a fact, and would find her milk to be a satisfactory beverage. That is a cow, is one example at least of an elementary judgment which is not, as he assumes most of them are, "especially the product of animals and young children." It belongs to that very large and familiar group of judgments which may be defined as *thinking what a thing is*. We may appropriately name them *primal judgments* because the first step, a very important step too, in logical thinking, is to identify objects, to think what this thing and that thing and the other thing is. It is chiefly by means of these simple primal judgments that we and all mankind, not merely animals and young children, are able to find our way about in this world. We live on primal judgments. The philosopher as well as the peasant would be helpless without them. They constitute one of the largest and most important groups of logical elements.

But the total bulk of logical matter to be discarded is not exhausted by simple primal judgments, large and important as we find that group to be. Many *inferential* judgments must also go into the discard, because they also are spontaneous, not critical. An inference is a judgment, and very often an elementary judgment. It differs from the simple judgment only in that some factor not directly perceived is included. For instance, we *see* smoke and *infer* fire. But the thought, Yonder is fire, is a spontaneous, not a critical judgment. Lodge's criterion would exclude it from modern logic, and along with it a great many familiar inferences.

Concepts also must go. The concept is built up of elementary

² Genuine Aristotelian logic is not so very bad; later hands have spoilt it. Benedetto Croce says that while Aristotle was a philosopher his followers were mostly day laborers. That may account for the degeneration of his logic.

judgments, judgments of selection or exclusion according as this or that is judged fit or unfit to be included in it. The concept itself is an elementary judgment and must be excluded from modern logic if we accept the proposed criterion.

Where shall we stop if we begin to cut off this and that element which is usually accepted as logical? Theoretically critical thought seems to be a fairly definite criterion. But in its practical application grave difficulties confront us. We are constantly in danger of putting asunder things which nature has joined together. It will hardly be denied by any one that something is logical; logic is not a myth. Passing from this general proposition to particulars, we may safely claim that inference is logical. But critical inference merges into spontaneous inference, and inference itself shades off into judgments, and judgments into concepts. All of these logical factors are functions of cognition, and the knowledge-process is a continuous process. The attempt to break it up into a critical moiety and a spontaneous moiety is unphilosophical in principle and impossible in practise. The proposed exclusion of elementary judgments from logic ignores the continuity and solidarity of the whole compactly organized body of logical thought.

It is pertinent to inquire how much of Lodge's own book would remain if all but critical judgments were excluded. Of his four kinds of judgment the whole of the first group—perceptual judgments—would have to go. Also a great part of the second group—judgments of experience. This name, by the way, assigned to the second group, is infelicitous; all judgments are judgments of experience. Much happier is Bosanquet's descriptive phrase, "judgments of elaboration." For a judgment of this type works up, elaborates, distinct elements of thought; or, as Lodge puts it, "sums up many previous experiences." Now most of these distinct elements of thought are elementary judgments, and the process of elaboration may be either critical or spontaneous. In the latter case the whole judgment remains elementary. Take, for instance, Lodge's own example, "The freight-trains passing over the bridge grow more troublesome every year" (*Modern Logic*, p. 12). No critical insight is required to formulate that judgment. Thus it follows that much of his second group of judgments would be excluded by his own criterion. Let us grant without examination that his symbolic and transcendent judgments may all be critical—a generous concession—still only a scant moiety of his book would escape slaughter. For we must remember that elementary judgments form the base of the logical pyramid, and the lower tiers are broader than the upper. Hence, even granting that less than half of his judgment-groups

must be excluded, the discard would exceed the matter retained. His criterion would rid logic not only of elementary judgments, but also of concepts and of many inferences. But even that does not tell the whole story. "Ideally, there is, for modern logic, only one judgment," and that one is, unfortunately, beyond the range of mortal minds. Exclusion is such a sharp tool, wielding it is such a fascinating exercise, that in the end all human judgments pass under the knife.

Of course Professor Lodge has reasons—two reasons at least—for his proposed exclusion. (a) "Naïve mental processes at the primary level are not *judgments* in any strict sense." (b) "Contact with reality represents, for modern logic, an ideal rather than an actual fact." As a consideration supplementary to these "two main grounds," he urges that "as there is now no common term (*Urtheil*) to connect us with the teachings of traditional logic, we are in a position to keep clear of a number of distressing confusions which have arisen from the lack of a sharp distinction." These confusions pertain especially to negative and hypothetical judgments. His interpretation of negatives and hypotheticals encounters stiff resistance on the part of elementary judgments, and that "distressing confusion" would vanish with the exclusion of the recalcitrant judgments. Is it not always possible to readjust our theories to fit the facts instead of banishing unwelcome facts?

As for the soundness of his "two main grounds," we find them somewhat lacking in cogency. To prove that elementary judgments are not judgments "in any strict sense," he cites the "modern acceptance of the second level of reflection," that level, namely, at which we begin to be critical instead of spontaneous. Now this acceptance may be construed in two senses, either as exclusive of the primary level or coordinate with that level. In the latter sense the critical stage is not destructive of the primary stage; logic may recognize both critical and spontaneous judgments. That is the way in which most logicians construe this acceptance. But Lodge construes it in the first sense and assumes that modern thought conforms to his thought.

His further development of this "second level of reflection" is unique. "We criticize the judgment itself. Is *A*, after all, *B*? Is not that merely our *opinion*?" Is that object truly a cow? It seems to be a cow. "So far as the evidence goes it would appear" to be a cow. But hold on there a moment before you accept "the evidence as far as it goes." For "we are only mediately, if at all, in touch with reality. All judgments are regarded as man-made, hypothetical, open to doubt." Alas for the poor deluded milkmaid fondly hoping to fill her pail from a hypothetical cow.

It is only by deftly enveloping them in metaphysical mist that doubt is cast on elementary judgments. We challenge the accuracy of the assumption that modern logic is committed to that sort of legerdemain. Its most eminent expounders, those able authors recognized by Lodge himself as his masters, do not reject elementary judgments; neither do they stigmatize them as not being judgments at all.

The second main ground for excluding elementary judgments from logic is formulated as follows: "Contact with reality represents, for modern logic, an ideal rather than an actual fact." This is also an assumption which is not quite self-evident. Its validity as an accurate picture of modern logic can hardly be accepted. Whether or not it strikes you or me as a welcome and congenial note, depends wholly on what brand of philosophy we affect. For it is at bottom a philosophical rather than a logical doctrine. Just how it serves to establish the desired conclusion that the whole group of elementary judgments ought to be excluded from logic, is not very clear. The implication seems to be that the elementary judgment is somehow to blame for the reality-contact situation, and deserves to be sent into the wilderness as a scapegoat.

Now in this matter of closeness or remoteness of contact with reality, metaphysics is always able to brew a host of doubts and confusions, but, fortunately, logic is not obliged to drink of that brew. The logician may not be able to say just how we get in touch with reality; or by what means we can best achieve that result, whether by spontaneous or critical thought; or just how close we ever get by any available method; but he has one sure token that we do somehow get at the real thing and know that it is verily there before us. "*The real compels our thought*" (Hibben's *Logic*, p. 30). It compels our thought because it is an item in the whole well-ordered and compact system of cosmic organization. Cosmic order compels alike your thought and mine and the thought of all mankind. All judgments "man-made"? Far from it. We just have to think thus and so as reality dictates. This compulsion, this external control, is an inherent and inalienable function of reality, a prerogative which nothing unreal can usurp. By that mark we can always distinguish the real from the dream, the illusion, the creation of fancy or imagination. We can banish the sham-real, annihilate it, clean it out of our thought by the exercise of reason and will as so much rubbish; but we can not annihilate the cow.

There is no royal road to knowledge of reality. It is achieved painfully, laboriously, step by step. Elementary judgments furnish the facts and critical judgments organize the facts into a coherent

system, a science. Logic proceeds by this method, just as the other sciences organize their special facts. It is by the harmonious combination and interplay of elementary and reflective judgments, not by thrusting the former out of doors, that the knowledge-process is invigorated and vitalized. The tree of knowledge is rooted in spontaneous judgments. How can we expect fruitage if the roots are severed?

Lack of spontaneity has been fatal to the old formal logic. We may well beware of a similar fate for modern logic if spontaneous judgments are excluded from it.

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REVIEWS AND ABSTRACTS OF LITERATURE

An Introduction to Modern Logic; RUPERT CLENDON LODGE. Minneapolis: Perine Book Co. 1920. Pp. xiv + 361.

What is "modern logic"? Mr. Lodge announces it as "that body of logical theories and method which is usually associated with the names of Lotze, Sigwart, Bradley, Bosanquet, Wundt, Erdmann, and Dewey." This identifies it as the doctrine characteristic of a movement, not of a period. But what is it that the logical theories of Bosanquet and Dewey have in common—or did Mr. Lodge put in Dewey merely to make the conundrum more difficult? The reviewer (being prejudiced on the subject) thought he knew the answer: "Modern logic" is a new name for ancient dialectic. But this book makes him doubt. The splendid chiaroscuro of most contributions to "modern logic" but serves to accentuate the brilliant polemic. Here, however, all polemic is deliberately avoided, and the development is entirely constructive. Avoidance of the controversial is carried to the point of omitting all discussion of the relation of "modern logic" to the Aristotelian tradition and to the various developments of recent years which are neither Aristotelian nor "modern." "For all such omissions, as well as for what is included, the sole justification is the nature of an introductory treatise. It has seemed best to avoid polemics on the one hand, and an unmanageable multiplicity of hypotheses on the other, in favor of a certain singleness of purpose and organic unity of thought" (p. v.).

In this purpose to develop comprehensively the constructive theory of "modern logic," the author has admirably succeeded. The presentation marches. Compactness, explicitness, the constant use of illustration, and clarity in development are its outstanding features.

Ten chapters are devoted to "Judgment," seven to "Inference," and twelve to "Scientific Method."

Judgments are classified as (1) of perception, (2) of experience, (3) symbolic, and (4) transcendent. These types are regarded as "stages" of judgment, after the fashion which is characteristic both of the Hegelian school and of pragmatic preference for psychological categories. On the whole, the exposition leans more to the Bosanquetian identity-in-difference point of view than to the genetic. All judgments of perception formulate something actually presented to the senses. Judgments of experience include memory; they are "like a composite photograph" of many perceptions. Symbolic judgments involve the construction of a *new* object from previous experience elements. Transcendent judgments pass beyond actual or possible human experience. These stages are relative; all judgments involve both a sensory and an intellectual factor. From perceptual to transcendent, the sensory element grows less prominent and the intellectual more important. All judgment is, in fact, an intellectual organization of sensory experience: the secret of it is, of course, identity in difference.

Inference is regarded as analytically expanded judgment. It stands in opposition to unanalyzed impression or intuitive judgment, and is always hypothetical. It is, further, constructive, requiring an intellectual model which fits the situation. And inference is judgment which produces the "new."

The third part of the book, devoted to scientific method, contains an immense amount of detail. Here, as elsewhere, the discussion sticks to topics of the most general sort, though there are frequent illustrations and applications. Analysis and synthesis, definition, classification, the relations of deduction and induction, the nature and types of proof are discussed. There never has been a wholly satisfactory treatise on scientific method: probably the subject is at present unmanageable. But when the topic is touched upon, it almost seems as if it should be in the spirit of careful study of the actual technique of the various sciences, particularly the more systematic and exact sciences. In spite of constant illustration, Mr. Lodge leaves something here to be desired. For instance—perhaps this instance is extreme rather than typical—we come upon the heads, "Methods of Scientific Analysis, (A) Mathematical," and considering the extraordinary advance of analytic methods in mathematics during the last century, we might hope for concrete and somewhat detailed discussion of mathematical procedures. Instead we find this: ". . . In all the natural sciences, mathematical analysis is an auxiliary method of the greatest importance. So far as it goes, it is sufficiently exact, and it tends to leave the material

in better shape for a more final analysis. For instance, how long should a Dachshund of given girth, head, and tail, be in the body in order to give the most esthetical satisfaction?" (p. 214).

Since in this book the reader is not continually diverted from the constructive development by the critical interests of controversy, it offers an especially good opportunity to assess the adequacy of "modern logic" as a formulation of the criteria of right thinking. If it intends to displace the traditional or other more recently developed criteria, in this book its failure can not be hid. Imagine what success one would have in testing scientific thought or an every-day formulation of opinion by the following, which summarizes the topic of judgment:

... Judgment is the intellectual organization of sensory experience, the introduction of intellectual standards into the sensory consciousness so as to give us, in place of the even but vague sensory flow, a clear-cut intellectualized essence which is fit to take its place in the ultimate ideal of organization, the system of knowables. This system is not only thinkable through and through, but must be connected with the sensory consciousness in such a way that our judgments can be verified, can be, not merely *thought*, but *known*. The conceptual, intellectualized essence must be the essence of the sensory experience, *i. e.*, must give us a meaning which is not a pure creation of intellectual manipulation, but is implicitly present from the very first, embodied in our experience even at the sensory level. Judgment, then, is both sensory and intellectual; it is valid precisely so far as it is what it professes to be. If the sensory side of the experience is acceptable to direct sensory apprehension, and the intellectual organization is thoroughly consistent, and if, finally, the judgment is the intellectual organization of the sensory experience in question, then the judgment is valid.¹

One who could use successfully such criteria of judgment, would not need any. It is not that anything here is incorrect—though volumes might be written in discussion of that: this simply does not concern the problem to which exact or formal logic addresses itself. "Modern logic" subserves "knowledge about" right thinking, not "acquaintance with:" it bespeaks preoccupation with difficult and general questions of psychology and epistemology to the exclusion of the more soluble problems of validity in judgment and inference. Every logician is at least interested in "modern logic," and many outside the "modern" school contribute to it—only they call it by another name.

But what's in a name! Mr. Lodge's book is a careful and well-written presentation of whatever it is a presentation of.

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¹ Pp. 106-107.

La evolución democrática. ROBERTO ESPINOZA. Santiago, Chile: Hume and Walker. 1918. Pp. viii + 351.

This is a useful, though very limited, survey of the growth of political democracy from its beginnings among the Greeks and Romans to the year 1916. It is based mainly upon more or less conventional, and sometimes antiquated, authorities in Spanish and French. Its author, who is professor of political economy in the University of Chile, has brought together a series of lectures in which he describes and discusses the "evolution of government in the most ancient Indo-European civilizations," parliamentary government as developed in England, and "presidential or popular representative" government as exemplified in the republics of America. Under the third of these divisions he classifies governments historically into "theocratic," "monarchic," "oligarchic or aristocratic," "popular representative," "democratic" and "dictatorial," considers the "supreme authority in the executive," sketches the course of democracy through the ages, devotes thirteen pages to presidential government in the United States, four to the same theme in American countries other than Chile, and fifteen in the case of Chile itself, and draws certain parallels between the parliamentary system and the popular representative or presidential. Each division is followed by "conclusions," and at the close of the work "general conclusions" are appended.

Professor Espinoza has endeavored to emphasize what he believes to be points of similarity between the countries of ancient Europe and the nations of modern America, in regard to the slowness with which the right to a share in government has been granted to the masses of the population. He has attempted also to prove that, since parliamentary government is a sort of cross between absolute monarchy and popular representative government, its character is essentially aristocratic, rather than democratic. More especially he has sought to demonstrate that the parliamentary system now prevailing in Chile is not in accord with the popular representative form provided by the constitution of 1833. Herein, doubtless, is the *raison d'être* of the entire book.

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Tsing Hua Lectures on Ethics. GREGORY DEXTER WALCOTT. Boston: Richard D. Badger. 1919. Pp. 198.

The lectures which comprise this volume were delivered before the students of the High School of Tsing Hua College in Peking while the author was temporarily professor of psychology and lec-

turer on ethics in that institution. In them Dr. Walcott makes no attempt to develop an ethical theory by sustained argument or the constructive criticism of other views. Suiting his thought to the audience he addresses, he reviews the teachings of Occidental moralists upon leading ethical topics, emphasizing the points upon which all agree and seeking to find ground in them for an ideal equally authoritative for West and East. Considering the limitations imposed by their aim and occasion the lectures seem to me a creditable performance. They possess life and interest and, without too great superficiality, manage to speak clearly upon an astonishing array of subjects. Whether or not they grasped his meaning at every turn in the discussion, Dr. Walcott's hearers must have felt the sincerity of his desire to place at their disposal during this critical period of reconstruction the most significant results of ethical investigations in the Occident. Of his own philosophy of moral distinctions the lecturer gives us only hints; but from these we gather that he finds in modern realistic science a complete explanation of the source and authority of ideals and is able to reconcile the moral purpose of history with universal mechanism. Assuredly the world will receive with interest such an ethical philosophy when once it is formulated!

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JOURNALS AND NEW BOOKS

JOURNAL OF APPLIED PSYCHOLOGY. March, 1920.
Employment Psychology in the Rubber Factory (pp. 1-17): HAROLD E. BURTT. — An account of a research at a rubber-tire factory. One method of psychological approach to the problems of vocational selection in industry illustrated. *What Industry wants and does not want from the Psychologist* (pp. 18-24): ELIOTT FROST. — Industry does not want a booklet of psychological tests. The manufacturer must be shown the value of any technique by patient education and proved results. *A Constant Error in Psychological Ratings* (pp. 25-29): EDWARD L. THORNDIKE. — Ratings are affected by a marked tendency to think of the person in general as rather good or rather inferior and to color the judgments of the qualities by this general feeling. Science seems to demand that in all work on ratings for qualities the observer should report the evidence, not a rating, and the rating should be given on the evidence to each quality separately without knowledge of the evidence concerning any other quality in the same individual. *Psychological Tests as Diagnostic of*

Vocational Aptitudes in College Women (pp. 30-38): ELSIE MURRAY. — Scores obtained from a series of tests distributed over a number of months in the junior and senior years, when pooled in four sets to measure General Intelligence (or Teaching Ability), Accuracy (or Clerical Ability), Practical and Social Ability, respectively, afford evidence of decided dissimilarity in the four functions measured.

The Applicability of Mental Tests to Persons over Fifty Years of Age (pp. 39-58): JOSEPHINE CURTIS FOSTER and GRACE A. TAYLOR. — There are certain definite changes in the distribution of scores on the Point Scale as the chronological age of the subject increases. These changes are evident in both normal and psychotic persons. The mental condition of a subject over 50 years of age will be much more accurately presented if two mental ages are given: one which compares him with his own adolescent ability, and one which compares him with his normal contemporaries.

Some Results and Inferences Derived from the Use of the Army Tests at the University of Minnesota (pp. 59-72): M. J. VAN WAGENEN. — Indications suggest, in so far as students' interests tend on the whole to lead them to seek the occupations for which they are better fitted by nature, mental tests may in time be used as a basis of predicting his chances of success in doing the work of each of the various technical colleges and at the same time as a basis for giving the student more accurate advice in the selection of a vocation.

Propheying Army Promotion (pp. 73-87): S. C. KOHS and K. W. IRLE. — Although school marks and judges' estimates may serve as aids in prophesying army progress, other criteria must be relied upon for any satisfactory development of a prognosticating machinery.

The Degree of Ph.D. and Clinical Psychology (pp. 88-90): EDGAR A. DOLL. — A plea is made that one may offer demonstrated ability or knowledge in clinical psychology in lieu of the Ph.D. degree when applying for certification as a clinical psychologist.

Minor Studies from the Psychological Laboratory of Indiana University. VI. The Influence of (a) Inadequate Schooling and (b) Poor Environment upon Results with Tests of Intelligence (pp. 91-96): LUELLE W. PRESSEY. — The paper reports comparisons of (a) country and city children, and (b) children from different economic levels, by means of a group scale of intelligence applicable to the first three grades. Twenty-two per cent. of the country children 6-8 years old score above the median for their age made by city children.

VII. First Revision of a Group Scale Designed for Investigating the Emotions, with Tentative Norms (pp. 97-104): S. L. PRESSEY and O. R. CHAMBERS. — The tests forms, and tabulations to date, will be furnished to any one who may be interested to use them.

Book Reviews. Notes.

Baeumker, Clemens (editor). Beiträge zur Geschichte der Philosophie des Mittelalters. Munster: Aschendorff.

Bd. XIII., Heft 5. Gunther Schulemann. Das Kausalprinzip in der Philosophie des hl. Thomas von Aquino. 1915.

Bd. XV. Hermann Stadler. Albertus Magnus, De Animalibus libri XXVI., nach der Cölner Urschrift, 1^{er} Band, Buch I.-XVIII. enthaltend, 1916.

Bd. XVIII., Heft 1. Karl Michel. Der "Liber de consonancia nature et gratie" des Raphael von Pornasio. 1915.

Bd. XVIII., Heft 4-6. Ludwig Baur. Die Philosophie des Robert Grosseteste, Bischofs von Lincoln. 1917.

Bd. XIX., Heft 3. Clemens Baeumker. Alfarabi über den Ursprung der Wissenschaften (De Ortu Scientiarum). 1916.

Bd. XIX., Heft 4. Joseph Ebner. Die Erkenntnislehre Richards von St.-Viktor. 1917.

Bd. XIX., Heft 5-6. P. Hieronymus Spettmann. Johannis Pechami quaestiones tractantes de anima. 1918.

Bd. XX., Heft 1. Joseph Würsdorfer. Erkennen und Wissen nach Gregor von Rimini. 1917.

Bd. XX., Heft 2. Martin Grabmann. Die "Philosophia Pauperum" und ihr Verfasser Albert von Orlamünde. 1918.

Bd. XX., Heft 3-4. H. F. Müller. Dionysios, Proklos, Plotinos. Ein historischer Beitrag zur neuplatonischen Philosophie. 1918.

Bd. XXI., Heft 1. Bernhard Geyer. Peter Abaelards philosophische Schriften. 1919.

Bd. XXI., Heft 6. P. Hieronymus Spettmann. Die Psychologie des Johannes Pecham. 1919.

NOTES AND NEWS

Kantesellschaft offers a prize of 1500 marks for the best study on each of the following subjects: (1) A critical history of Neo-Kantism from its beginning to the present day; (2) The influence of Kant and his followers on the Reformation. The competition is open until April 22, 1921.

A NEW Italian review has appeared this year at Messina, under the title of *Il giornale critico della filosofia italiana*. It is published by Professor G. Gentile, with the collaboration of Signori Croce, Tucci and Saitta.

THERE has also been founded in Germany by Professors Hans Vaihinger and R. Schmidt a new review of the idealist school, *Annalen der Philosophie*.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

ENDS AND MEANS IN ETHICAL THEORY

THE problem of values, as discussed by pragmatists in recent articles, has involved a distinction between intrinsic and extrinsic values, immediate and instrumental goods, or, in other words, between ends and means. This distinction, though important and objectively based, has not always been properly handled, and deserves more careful attention. I desire to examine the distinction in this article. My purpose is not to attack pragmatism, at least the realistic type of pragmatism which Professor Dewey has so forcefully expounded, but rather to point out a lack, an incompleteness, an unfortunate emphasis, in the pragmatic statement of the nature of value. While accepting the bulk of the pragmatic teachings, I feel quite dissatisfied with the situation in which I would, without further supplementation, find myself. This dissatisfaction, I believe, is in no way unique with me, but is wide-spread. Frequently, the dissatisfaction leads critics of pragmatism entirely to reject the positive doctrines which pragmatism has set forth, though the critics thus lose, it seems to me, more than they gain. The soundest criticism of current pragmatism will be to accept the truth it has discovered, and then to proceed to add more truth in the endeavor to provide a better balanced, a more complete theory of values.

I should like first of all to enumerate some of the teachings of pragmatism which seem to me true and important. Pragmatism, at least such as Professor Dewey has developed, has done well to remind us of the extent to which the solution of our social and political problems lies within our control. Men had almost forgotten that knowledge is power, absorbed, as they were, in the maze of logomachy of which modern philosophy so largely consists. We needed once more to recall vividly that intelligence, whatever more it may be, is an effective tool in action, that the substitution of enthusiasm for reason is suicidal, and that the attainment of excellence in any field is almost directly proportional to the degree of wisdom exercised. Pragmatism has put new force and virility into the old Socratic identification of knowledge and virtue. Again, pragmatism, as stated by Professor Dewey, has brought to light a new and pregnant truth, which consti-

tutes the most original contribution of pragmatism to moral theory, namely, that the situations in which men find themselves placed are often ambiguous, and call for action on the basis of experimental judgments, which, if successful, create goods which were not given as data of the situations out of which they were evolved. Often the goods available, the values potential in a situation, are genuinely uncertain. Not simply are the instrumental goods unknown, the tools which we must use if we would reach our chosen ends with expedition and skill; but also the intrinsic goods are genuinely in doubt, the goals towards which we would move, the ends which we desire to realize. In these cases we must create new and as yet unexperienced values through the guidance of conduct by "judgments of practise." Such ambiguous situations seem to abound to-day, as we hesitate between entrance into an international association of broad scope and withdrawal into comparative isolation, between retention of capitalistic control of industry and various suggested forms of "democratic" management, between alternative "proposed roads to freedom" which are offered by political party and social outcast. Furthermore, pragmatism has made central in the thought of contemporary philosophy the reality of time. Time has become once more, as it should be, a factor which we are bound to take into account in our efforts to understand human life. Every act has its consequences, reaching on into the future, perhaps for a brief period only and perhaps for long ages. The nature of time is inexorable, and decrees that nothing shall lie outside the sphere of causal interactions. No good can be sought simply because of its native excellence and without thought of what it will entail for the future; rather it makes a difference to that future, for better or for worse, and must be evaluated in the light of those consequences to which it leads as well as in the light of those native excellences which it may possess.

Such are the truths for the discovery or rediscovery of which we are indebted to pragmatism. The points enumerated are all concerned with the control of the present in the interests of the future, with the achievement of as yet non-existent goods, with the endeavor to make the world which lies ahead of us better than it could be without our efforts. And I find such teachings, not obstacles in my path, but guide posts which have directed me towards a sounder ethics. Moreover, if pragmatism leaves me dissatisfied and seems but a part of the truth, I must recognize that Professor Dewey has not claimed to have put forward a complete system. He has clearly said that he "intentionally put to one side the question of the nature of value,"¹ that is, he wished to isolate the question of the process by which men

¹ This JOURNAL, Vol. XV., No. 10, p. 253.

evaluate objects from that of the nature of value. None the less, there are times when at least the emphasis of Professor Dewey's writings is unacceptable; and what is somewhat true in his case, is overwhelmingly true of the bulk of his too enthusiastic followers. There is too much talk of control; too little, of the ends in behalf of which the control is to be exercised. There is too much insistence upon the importance of tools and instruments; too little, upon the purpose for which the tools are to be utilized. In other words, there is too much stress upon means; too little, upon ends. There is too much attention to instrumental goods; too little, to the more ultimate goods which are the sanction of all lesser or subordinate goods. Pragmatism is too evangelical in its harping upon a sort of eschatology. It does well to place its heaven and hell on this earth, that is, to find in the purely natural events and processes of this world the criterion of morality in the light of which the problems of life are to be solved. But like the Christians of the Apostolic Age, pragmatism gazes always towards the future; and like the Second Coming, the heaven of pragmatism never comes to pass. Pragmatism views the present as nothing in comparison with the future which we are to create; but that future never becomes present, but in turn gives place to still another future. I sympathize with the simple Christians of Thessalonica, writing to the Apostle to the Gentiles to ask why the Second Coming was so long delayed. Any system of ethics needs to recognize, at least in some point in the temporal course of human affairs, a *terminus ad quem* which, when reached, will be good and will need no justification beyond itself. Even the supernaturalistic ethics of many forms of religion has a heaven and hell which are some day to be definitely reached by the souls of men, and in which the values will be immediate and intrinsic. But the heaven and hell of pragmatism are as fleeting as time, and recede ever further from the clutches of men, so that the intrinsic values, for which we are to seek instruments and endure the present, are never reached.

Perhaps my objection to pragmatism should be expressed by saying that pragmatism is entirely too formal. I do not object to its definition of end, means, value, *etc.* But the formal theory of pragmatism ignores the fact that in actual affairs these ends and means, these intrinsic and instrumental values, are not found separately. Logically the two types of good are distinct, and can be discussed one at a time. But existentially they are not found apart. Every thing, every quality, every process, every event, is both end and means. Writers on ethical theory nearly always treat of ends and means as if they were sharply disjoined in fact as in idea. It is true, as pragmatism has shown, that everything we choose as worthy of realiza-

tion is also a cause of further effects, an agent which makes a difference in what is to come after it. This it has been the merit of pragmatism to make clear. But the reverse is also true. Every tool we use for the attainment of our purposes, every means we select to reach our ends, every instrumental good, may become an end which has intrinsic qualities, which is desirable or undesirable on its own account, which thus makes a difference apart from the future to which it serves to lead. This latter truth it has been the misfortune of pragmatism, because dealing with formal principles, to overlook. Yet more and more, as civilization advances, men have become concerned, at times meticulously so, about the way in which they move to their chosen goals. Though not, like primitive man, making a sacred ritual out of the process by which an end is sought, as if the end were unable to be otherwise obtained, men have come, as civilization advances, increasingly to value as ends in themselves those aspects of the processes of living which had previously been indifferent. The savage and the man of culture both eat food to satisfy their hunger; but the man of culture would, within limits, prefer to remain hungry rather than to devour his food in the rude ways which to the savage are normal and acceptable. These additional intrinsic goods which come to be appreciated as moral sensitivity grows are not all merely a matter of "manners" in the superficial sense of the word, that is, are not merely accepted usages which could by common consent be changed for another set of equally acceptable formalities; rather they are the stuff out of which intrinsic goods are made. Perhaps on lower moral levels, some instrumental goods are intrinsically indifferent; but on the highest level of moral growth, it is hardly hazardous to say that there are few, or none, such. Every end is a means, and every means is an end. An intrinsic good is also instrumental, unless the sequence of cause and effect is broken and time ceases to flow on its accustomed way; an instrumental good is also intrinsic, unless there is a part of life which is of no concern and ceases to be even while producing its effect.

Pragmatism is probably to be considered as the "typical" American philosophy, in that it represents in theory the practise of thousands of our citizens. Americans are characteristically eager to get results. They suffer all sorts of discomforts in the thought of future reward. The capitalist reckes little of the by-products of his factory system, provided he can show a magnificent set of statistics to his stockholders. The labor-leader reckes little of the by-products of his strike and the manner of its conduct, provided he can win the advantages at which he aims. The school system views the years spent in study as so much "preparation" for a career which is to begin

when the preparation is complete. And thus Americans seem crude to many of the more cultured peoples of older national groups. Americans often miss the beauty or ugliness of the processes by which future goods are sought, the qualities of living which each fleeting moment possesses, the values, good or bad, which with irremediable course come into being and then slip on into the record of the past. Other national groups may heed too little the future which they are helping to create, absorbed in the appreciation of present values, immediate and intrinsic. But Americans tend rather to heed too little the present, pursuing an ever-receding future, and blind to the moral aspect of the present. The present alone is able to give life real meaning.² Life is not all preparation, indeed preparation ceases to have meaning when the goal of preparation is lost.

It is easy to guess why pragmatism has failed to emphasize the importance of intrinsic goods. Modern science has brought forth fruits of marvellous influence upon our daily living. The extent to which in the near future still further control over nature in the interest of man may be achieved is a subject over which it is difficult not to wax eloquent. The process of control, which at first was an instrumental good, has become to this progressive age the chief of intrinsic goods. Control is itself an end. Control is desired for the sake of still more control. As gold is the coin which in all markets passes at full worth and buys most of the necessities and comforts of life when other currencies are depreciated to a vanishing point, so control offers a field of increasing range within which an endless manifold of goods becomes available to the possessor of this match-

² This statement that the present alone is able to give life real meaning is open to misconstruction and must hence be briefly defended. The same statement was made by Professor Bush in an article in this JOURNAL, Vol. XV., No. 4, pp. 88-89, and was discussed by Mr. Picard in another article in this JOURNAL, Vol. XVII., No. 1, p. 15. I do not mean, and I am sure Professor Bush did not mean, that there do not lie ahead of us in the future many intrinsic goods which will eventually be realized. What I mean is that unless these goods are realized and thus become "present," the process by which they are sought is futile and valueless. Intrinsic goods are not real except when present. If when as yet unattained they afford happy anticipations, or if when already passed by they afford happy memories, the intrinsic good which is possessed is the anticipations or the memories, not that absent good towards which the anticipations or memories are directed. To deny that the present alone gives life real meaning would be to take the vicious position which the writings of many pragmatists imply, namely, that control and the selection of means are instrumentally good apart from the possibility of intrinsic goods to which the control and selection of means are to lead. I would contend for the position that every passing moment of life has its intrinsically good or its intrinsically bad quality, often of slight significance, but yet productive, when totaled up, of all the values which life can achieve.

less coin. Within limits this idealization of the process as an end is legitimate; it is to be commended as adding one more intrinsic good to a world standing in need of many goods. But the fact that control has become an intrinsic good is overlooked by the pragmatists, who speak seldom of aught but instrumental goods. And hence the question may as significantly be asked of them to-day as of the men of apostolic times, "What is a man profited, if he shall gain the whole world, and lose his own soul?" We are in danger of losing our soul. We are in danger of forgetting the essential and seeking the incidental. We are in danger of forging tools which we shall not know how to use to moral purpose, tools which will be productive of disaster, tools which had better never been invented than turned to the perverted uses of war, oppression, and slavery.

In the days before 1914 it was not so evident that the incomplete emphasis of pragmatism was dangerous. We seemed to live in security. We felt that the main goods of civilized social organization were safe from disturbance. We thought we could let the intrinsic goods take care of themselves, while we turned ourselves to the pursuit of means to obtain the goods more easily, more quickly, more efficiently. The whole world was becoming infected with the American spirit of control for control's sake. But to-day we are not so sure of ourselves. We feel rather that we have tools so dangerous that they may ruin their possessors. We are not so concerned about our ability to effect the end we set before ourselves as we are with the end we may socially set about to realize. If the peace conference failed to take steps to secure certain intrinsic goods, the reason was not ignorance of how to proceed, but passionate craving for other ends inconsistent with the intrinsic goods ignored or even betrayed. Hence we need in current society, and in the philosophy which may help to direct current society, an emphasis upon intrinsic goods, an insistence upon the proper goals of human endeavor. Of course we shall also need to take account of the means by which the ends are to be brought into being; but this is both an easier and a less important aspect of our present moral problem. Pragmatism is thus not in need of refutation, but of supplementation. The part of a complete system of ethics which is most essential for the present day is omitted in most pragmatic formulations.

There is a maxim to the effect that "the end justifies the means." To this maxim many objections have recently been made, as by the "conscientious objectors" during the war; and of this maxim many defenses have been made, as by the more violent assaulters of our existing social structure. In the light of the claim of this paper that all things and all events are both ends and means, the issue becomes

clarified. We may well ask what except the end could ever possibly justify the means. But there is more to be said. In the first place, the means which may be chosen as the way of obtaining an acknowledged good is itself an end of intrinsic merit or demerit. This means may be so evil as to counterbalance the good of the end sought. If the conscientious objectors had put their case on this ground as the more intelligent of them did, the question would have been debatable and the decision could have been reached on the basis of experimental evidence, even though the issue would be a dead one before the evidence would all be in. The situation thus was one in which men had to make a "judgment of practise" and permit the future to determine the truth or falsity of their judgment by the outcome of the actions to which the judgment led. Similarly in many other problems than that of the justifiability of a resort to war to attain a desired end, the means is itself a crucial matter. Though the end justifies the means, there may be several ends in one given situation; and in that case it is begging the question to justify the means by isolating one end as alone significant. Until a means can be found which is either itself an intrinsic good or at least but slightly an intrinsic evil in comparison with the good end to be brought about, the original end is not the justification of the selected means.

In the second place, the end which is sought is itself a means to further ends of intrinsic value, good or bad. These further ends may be so evil as to make the original end undesirable, even though, isolated and regarded in itself alone, it would be highly desirable. Such is the case with many ends which men thoughtlessly seek, careless of the eventual accounting which time will force upon them. In these cases again the end, the one, original end, is not able to justify the means. Thus the common maxim, however true when extended to cover all the facts, becomes false when ends and means are separated as distinct elements in the temporal succession of events. Remote, ever remoter, results of chosen ends must with increasing intelligence figure in the evaluations made, and intrinsic aspects of incidental means will more and more become essential features of the situation which will call for immediate appreciation as good or bad. Of the interconnection of end and means pragmatism is aware; but pragmatism has emphasized the further consequences of a given end rather than the intrinsic value of the chosen means. The latter truth is, none the less, important. What we must come to take into account is just the continual stream of intrinsic goods which, even though producing results as means, at the same time stand as ultimate goods or bads in and of themselves. Indeed without such ultimate goods and bads, pragmatism would be meaningless. Without

intrinsic goods, instrumental goods are devoid of significance, like tools which, in being used, are to be used for no purpose. It is the continual stream of intrinsic goods which is the ever renewed justification, the ever-present vindication, of our efforts to guide the course of human affairs, to select suitable means to chosen ends, to enrich life through wise control over its conditions and the materials of its successful expansion.

Frequently when in the history of philosophy stress has been laid upon progress, upon the mechanism of achieving moral gains, there has succeeded an effort once more to emphasize the final and ultimate goods towards which progress should be sought, and for which the mechanism was to be used. John Stuart Mill, for example, felt the dreariness of Benthamism as a moral system, and for a time lost interest in life because he found in the Benthamism in which he had been reared no satisfying statement of intrinsic goods. Now undoubtedly Benthamism had a clear definition of an intrinsic good, namely, pleasure, which, even if but one of a multitude of intrinsic goods available to men, and not even perhaps the most important of them, would theoretically serve as the justification of the struggle for means to increase human happiness, of the effort to control the future through knowledge of the consequences of action. But the whole emphasis of Benthamism was upon control, with almost no stress upon that which made the control desirable. The means were so all-important, that the end was dropped almost out of sight. At least upon John Stuart Mill the effect of Benthamism was to make life seem cold and forbidding. For his teachers the process of gaining control had come to be the chief intrinsic good. But to him the question loomed ever larger as to what the outcome was to be of the increased control. And so he passed through a mental crisis in which he felt he had no end worth working for. In his own words, "The end had ceased to charm, and how could there ever again be any interest in the means? I seemed to have nothing left to live for."³ And from this state of depression he escaped only when he found some things which were immediately good, which needed no further justification by processes leading on through infinite regress to a never-attained goal. He recovered interest once more in life when he could take enjoyment "in sunshine and sky, in books, in conversation, in public affairs," above all, in beauty of human character which was of worth whether or not it had results which fitted in with the hedonistic calculus. Thus Mill stands as a warning and a type, a warning in that without full recognition of intrinsic goods the struggle for control seems devoid of function, and a type in that

³ *Autobiography*, London, 1873, p. 134.

through immediate goods needing no vindication by a criterion more remote, life becomes worth while.

In the essay in which in 1838 John Stuart Mill summed up for *The Westminster Review* the significance of Bentham, there occurs this passage: "Every human action has three aspects: its *moral* aspect, or that of its *right* and *wrong*; its *aesthetic* aspect, or that of its *beauty*; its *sympathetic* aspect, or that of its *lovableness*."⁴ The passage is confused and vague; its terms lack the sharpness necessary for ethical theory. But read in the light of John Stuart Mill's own experience of a decade earlier, its significance is clear. Mill was protesting against the Benthamite tendency to judge acts solely by their outcome, that is, as means to something else, a tendency which Mill called "one-sidedness" and regarded as an error of "almost all professed moralists." Over against this Benthamite tendency he proposed to judge actions more fully, to take into account also their intrinsic merits or demerits, their beauty and lovableness. What would the consequences of an act matter, if somewhere there did not come an intrinsic good of value in and of itself! And then if the original act possesses this intrinsic aspect as well as its instrumental function, the moral problem, though it at once becomes more complex, as complex in theory as morality always is in practise, becomes also real and vital, pregnant with human significance, and decisive for human happiness.

I have not wished in this article to attack pragmatism in any of its positive doctrines, but only to insist upon the danger of an emphasis which results in an unfortunate one-sidedness. Ethics must make central, in any systematic statement, an account of the intrinsic goods which are the core of the problem of morals. I have not attempted to enumerate these intrinsic goods, nor to define their nature, nor to determine their genesis, though recognizing that real problems must here be faced and solved. But I have simply desired to stress the need for making central in discussion to-day that which is central in theory, that upon which all else depends. Life gains its meaning and its value only because through its course men can achieve a multitude of goods which not only lead on to further consequences, but are in themselves a joy and a delight.

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⁴ *Dissertations and Discussions*, London, 1859, Vol. I., p. 387.

SOME LINGERING MISCONCEPTIONS OF INSTRUMENTALISM¹

WE are all agreed, I take it, that cooperation in philosophy does not require that we be all of one mind, any more than cooperation in other matters requires that we be all of one vocation. However, in philosophy as elsewhere, if great waste is to be avoided, there must be as much mutual understanding as possible. What I have to say aims to promote such cooperative understanding by attempting to clear up some lingering misconceptions of instrumentalism.

I must confess that I have used the term "lingering" with malice aforethought, fully aware of the fact that if anything is said to be "lingering" we understand it is staying overtime. Indeed, a year ago I should have said what perhaps some of you may still say when I have finished, that this discussion is another sad instance of belated industry. I should have said that if the misconceptions to be discussed still "lingered" it was only in a few unlighted by-ways and corners; that in all quarters that really counted instrumentalism had lived down these misconceptions even as it had survived its early reputation of "subjectivism." But during the past year a revival of these misconstructions has appeared in such high places, that any complacency that instrumentalism may have begun to feel over the supposition that it had at last outlived the rumors of its alleged youthful indiscretions, has been rudely shaken, and it finds itself obliged to enter upon a "drive" of refutation.

My present interest in this revival was first aroused by a lecture on science and pragmatism by my good friend Professor Fite, in which to my great astonishment he affirmed the major premise of instrumentalism to be that all *consciousness* is instrumental to merely physical behavior, a doctrine which easily lends itself to many variations of the *reductio ad absurdum* refutation, of which you may be sure Professor Fite was not slow to take full advantage to the great entertainment of his audience. He had no difficulty in showing that such a doctrine makes all conscious experience valuable in proportion as it is instrumental to a process that is wholly without value; *i. e.*, the instrumental theory exhibits consciousness as possessed of a chronic suicidal mania.

At the close of the lecture I entered a protest to the effect that instrumentalism is not a doctrine of the instrumental character of consciousness as such, but of *reflective*, logical, inferential conscious-

¹ Read at the annual meeting of the Western Philosophical Association, April, 1920.

ness, and that this instrumental character belonged, therefore, to a very limited and specific phase of conscious experience. In support of this I referred to the numerous explicit statements of Dewey, who I assume is generally accepted as the most authoritative expounder of instrumentalism. Over and over Dewey reiterates that what reflective thinking is instrumental *to*, is the resolution of the conflicts of immediate experience and its consequent development and enrichment. And "immediate" experience here includes the whole of non-reflective, non-inferential experience. He frequently generalizes this as a world of "action and appreciation." Note the term "appreciation." But as if to guard against any possible misunderstanding, he often specifies such things as "going to business," "greeting a friend," "contemplation of a sunset, a painting, watching a play, reading a poem, *etc.*" How in the name of common speech should such things as these be confused with merely physical behavior?

Similarly, in Professor Adams's treatment of instrumentalism and values¹ his constant complaint is that in instrumentalism there is no place for the non-instrumental values or objects of contemplation, adoration, love and worship; that in instrumentalism not only reflective thought, but all *values* are instrumental to merely vital processes of the organism. Again, I submit that this is not merely an exaggeration, but a complete subversion of the instrumental doctrine of values. Not only is there room in instrumentalism for these non-instrumental values, but they have *most* of the room, since they occupy it all except the value of inferential operations whose main business it is to keep these non-instrumental values going. So far as I can see, there is no reason whatever why any one who is temperamentally contemplative and appreciative may not be a perfectly good instrumentalist, provided he recognize that the course of contemplation and true love is not *always* smooth, and that it is the function of analytic reflection to make smooth the paths of contemplation and affection.

It is not difficult to discern some of the sources of these misconceptions. Among the more superficial is the term "instrumentalism" itself. As it has turned out, it seems unfortunate that the instrumental theory of knowledge and logic became an "ism," for an ism is supposed to state a universal character. Now, I do not wish to imply that the instrumental theory of knowledge does not carry with it an interpretation of other things than knowledge, and if any one pleases, he can call this interpretation "metaphysics."

¹ Cf. *Idealism and the Modern Age*, a stimulating volume by George Plimpton Adams.

But it scarcely follows without more ado that because something, for example knowledge, is held to be instrumental, that something else, for example values, must also be instrumental. On the contrary, when it is said that reflective thinking is "instrumental" there surely is some presumption that what it is instrumental *to* is not itself instrumental. The term "immediate experience," of course, makes this presumption explicit. But this only makes it the more ironical that a philosophy in which immediate experience is so fundamental should bear the name "instrumentalism."

But a more indigenous and prolific source of these misconceptions is the habit which all of us have more or less of thinking and talking of consciousness in cognitive terms. Hence, when knowing is proclaimed to be instrumental, it is very easy to slip over to the assumption that this carries the whole of consciousness with it. The basis of this habit is not difficult to see. It lies in the fact that so much of the weal and woe of the rest of conscious experience turns on the success and failures of knowing. Hence, the importance of the technique of knowing; hence, the fact that it is the focus of most of the discussions of consciousness. It is the part of consciousness that has a technique that can be discussed and reconstructed.

Again, there can be no doubt that the notion that reflective consciousness is instrumental to merely physical behavior has found aid and comfort in the frequent appeals of instrumentalists to biology. This is very obvious in the discussions of Fite and Adams. The key to the misunderstanding growing out of this appeal to biology, lies in the fact that those who find this appeal a stumbling block always assume that the biology to which instrumentalism refers is biology as it has long been conceived when stripped of all conscious and social characters—the biology that has constituted historic "naturalism" which has always evoked a correlative supernaturalism as its answer. But just a modicum of attention, in reading these references to biology, should have made it clear that the biology to which instrumentalists so often refer is a transfigured and glorified biology, loaded with all the conscious and social values which are denied to it by those who find it such a bugbear. Of course, if one first carefully removes all conscious and social character from nature, it requires no very daring inference to conjecture that they must be looked for elsewhere.

Of a piece with the misconstruction of instrumentalism's doctrine of biology and nature are the misunderstandings of its conceptions of conduct and behavior. Now there certainly has been considerable ambiguity in the use of these terms. Sometimes reflection is made instrumental *to* conduct or behavior, in which case

conduct and behavior obviously mean simply non-reflective experience, including as much appreciation and contemplation as you like. At other times, reflection is made instrumental *in* conduct and behavior. Here these terms are used in a very broad sense, akin to "the conduct of life." Yet again, reflection is spoken of as a *part* of conduct, conduct being explicitly defined as the process of reconstructing and developing conflicting values. Conduct here means the whole mediating process.—But in none of these cases does conduct or behavior mean mere motion. A part of the time, indeed, Professor Adams does concede that in instrumental logic reflective thought is instrumental to something more than a merely physiological process—namely to the satisfaction of desires. But these desires are at once limited to the expression of instinctive needs of the body determined entirely by its past history. Reflection is thus tied to the past. It can be only a memory of the movements involved in satisfying fixed instinctive needs. Elsewhere, to be sure, when contrasting instrumental interests with the values of "possession, contemplation, and worship," instrumentalism is portrayed as a lusty and rather impious philosophic Bolshevik devoid of all reverence for the past, having for its motto "Accept no world presented to you as something to possess and contemplate and worship. Make your own world; live only in a world you create or control."

In protesting these misconceptions, not to say caricatures, of instrumentalism, I do not wish to leave the impression that no real issue remains. So long as there are those who hold that reflection and truth are wholly self-contained and in nature independent of and irrelevant to the world of social, esthetic and religious values, there will be an issue. This issue is at bottom, I think, the issue between formal thought and truth and material, *i. e.*, applied thought and truth. A wholly autonomous thought and truth must in the end be formal. This is why those who cling to this view lean so heavily on formal mathematics.

This statement of the issue suggests yet another and the last of the sources of misunderstanding to be considered. This is to be found in the confusion of the issue between formal and instrumental thought and truth with the psychological question of division and specialization of interest. So far as I can see, the fact that an individual or a number of individuals may take special interest in the problem of the technique of thinking, or the supposition that all thinking has its own immediate value does not affect in the least the theory of instrumental logic. Let one be a hopelessly besotted intellectualist, let him say that "nothing can possibly be conceived in the world or out of it which is so good as a good thought," and let

him believe that the sole justification of the whole furniture of earth and choir of heaven is that they furnish material and occasions for thought—still if he find that some thinking is good and some bad, and if in separating the good from the bad he is obliged to appeal to results in the rest of the world, he would still be an instrumentalist in good standing. The issue of instrumental or non-instrumental thinking is not the question whether any or all of us believe thinking to be the greatest thing in the world—it is simply a question of what thinking is and does in the world, and how it gets its character of truth and falsity, wherever it occurs, and however much a matter of specialized personal interest it may be.

One who makes wheels for automobiles (I assume the time-honored watch wheels are now out of date as illustrations) may come to feel about wheels as James's hen about the eggs, that wheels are the most utterly fascinating and precious, and never-too-much-to-be-turned-out things in the world. But if he distinguishes between *good* and *bad wheels* and finds that he makes this distinction on the basis of their relations to automobiles, or watches, or wagons, he will still qualify as an instrumentalist. If, however, his enthusiasm for wheels takes the form of contemplation and adoration of the celestial essence of circularity, then of course, we are in the realm of immediate non-instrumental values, but note that we are also beyond truth and error and goodness and badness. As for the goodness, or badness, truth or falsity of the particular *instances* of circularity, how as objects of contemplation merely can they be good or bad, true or false? They are simply circles or not circles. Indeed, as a matter of contemplative value, why bother with the "instances" after we have reached the point where we can focus the mind's eye on the subsistential essences? But, if, empirically, one finds, that the maintenance and renewal of the contemplation and adoration of the essence of circularity depend on experiences of particular instances, and if he finds that the discovery and production of these instances are somewhat of a *problem* requiring conduct and behavior which involves the operations of reflection, then he is again face to face with an instrumental logic. But whether we happen to be more interested in the values of contemplation or appreciation or in the processes by which they are sustained, developed and enriched, is irrelevant to the nature of the instrumental function of reflective thinking.

Finally, the instrumental character of reflection is not adequately conceived if it be thought of merely in the policeman's rôle of quelling conflicts among our contemplative and appreciative values by suppressing some and giving others free course. In every thoughtful settlement of such conflict there is a revision and recon-

struction of those values which is genuinely *creative*. And “*this function of reflection*”—says Dewey—“is incomparably more valuable for living a life than is the primary result of *control*, essential as that is, for having a life to live.”

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THE DISTRIBUTION OF THE PREDICATE

AN interesting feature of Professor Toohey's *Elementary Handbook of Logic* is his polemic against the doctrine of the distribution of the predicate. Professor Toohey finds the explanation of conversion and of the categorical syllogism “much easier and simpler if this hypothesis is discarded” (p. 30). The “assumption,” he contends, is “unnecessary.” The rule of distribution is not needed for the explanation of conversion (p. 45). Moreover, “the doctrine of the distribution of the predicate is based upon a confusion of judgment with the mind's subjective reflection upon it, that is, upon a confusion of the *meaning* or *import* of a proposition with its *implication*” (p. 202). “Many logicians condemn Hamilton for saying that the extension of the predicate is present to the mind, while they themselves [in defining distribution] maintain that the mind refers to the extension of the predicate” (p. 203). “But there is another objection to the hypothesis of the distribution of the predicate, and that is that it breaks down. The partial inverse of ‘All *S* is *P*’ is ‘Some non-*S* is not *P*.’ Since conversion and obversion are legitimate processes, this partial inverse is a valid conclusion. But according to the foregoing hypothesis, there is a distributed term (*P*) in the partial inverse which was not distributed in the original proposition, and hence the partial inverse is invalid” (p. 206).

The objection to the doctrine of distribution is then two-fold. In the first place it is said to be of little or no value pedagogically; and in the second place it is said to involve us in contradiction. It is the latter contention in which I am chiefly interested at this time.

It must be conceded, I think, that the difficulties alleged by Professor Toohey are not wholly factitious. Yet these difficulties do not seem to me to inhere in the concept of distribution itself, but rather to result from the inadequacy of the conventional definition. And the following formulation is suggested in the hope that it may enable us to avoid the pitfalls to which Professor Toohey has directed our attention:

A term is distributed with respect to another term when by re-

flection upon the mere form of the proposition containing the terms in question we can tell that the class denoted by the one is either "wholly within" or else "wholly without" the class, or some part of the class, denoted by the other. (The phrase, "or some part of the class," is required, as will appear further on, in order to make provision for the case of the *O* proposition.—A class may be said to be "wholly within" another class, when every member of the first class is also a member of the second; and to be "wholly without" another, when there is no member of the first which is also a member of the second.)

In this definition four points are taken into account: (1) The doctrine of distribution has meaning only from the standpoint of the inclusion and exclusion of classes. (2) When a term is said to be distributed or undistributed, attention is directed to the *form* of the proposition, while the content is disregarded. (3) In speaking of the distribution of a term we are not merely concerned, to employ Professor Toohey's terminology, with the *import* of a proposition, but also with its *implication*. (4) Distribution is a relative notion, like height or weight or beauty; and, while it is ordinarily unnecessary to insist upon the relativity of distribution (just as it is ordinarily unnecessary to advert to the relativity of height or weight), it is nevertheless a matter of the greatest importance that we should be aware of the fact that these terms are relative. Otherwise we are likely to fall into antinomies such as the Greeks discovered in the ordinary notions of "greater" or "less," and as Professor Toohey and others have found in the partial inverse.

However, before proceeding to a discussion of this moot point, it may be well to show that our proposed definition gives the conventional results for the four types of categorical propositions. This may be shown most readily by directing attention to the relations which are possible between two classes considered from the standpoint of inclusion and exclusion. Of these there are five: (*a*) The two classes coincide. In other words, each wholly includes the other. (*b*) The second wholly includes the first, and more besides. (*c*) The first wholly includes the second, and more besides. (*d*) Each includes a part but not the whole of the other. (*e*) Neither includes any part of the other.¹

Now of the four types of categorical propositions, *A*, *E*, *I*, and *O*, only one, the *E* proposition, is unequivocal. It can mean only (*e*). The class denoted by its subject is "wholly without" the class denoted by its predicate, and *vice versa*. Therefore, in accordance with the definition, the subject is distributed with reference to the

¹ Cf. Keynes, *Formal Logic*, third edition, p. 127.

predicate, and the predicate is distributed with reference to the subject. The case of the *A* proposition is not quite so simple, for it may mean either (*a*) or (*b*). If it means (*a*), the subject-class is "wholly within" the predicate-class and the predicate-class "wholly within" the subject-class; and, if this were the only possible meaning, both terms would be distributed. But if we have regard to the form of the proposition only, we can not be sure in any given case that (*b*) is not the meaning. And in (*b*), while the subject-class is still "wholly within" the predicate-class, the predicate-class is neither "wholly within" nor "wholly without" the subject-class. Hence in the *A* proposition, while the subject is distributed, the predicate is not. The case of the *O* proposition is more difficult. If it means (*e*), each class is "wholly without" the other; and, if this were the only possible meaning, both terms would of course be distributed. The relation designated (*c*) is, however, a possible meaning, and this vetoes the distribution of the subject. At first sight, (*d*), the other possible meaning, seems to veto the distribution of the predicate also, because the class denoted by the predicate is neither "wholly within" nor yet "wholly without" the class denoted by the subject. The predicate-class is, however, "wholly without" that portion of the subject-class which is actually referred to by any given *O* proposition. Consequently, by the proposed definition, the predicate of the *O* proposition is distributed with respect to the subject. (That is to say, it is convenient to treat exclusion from a part as equivalent, so far as the definition of distribution is concerned, to exclusion from the whole.) The *I* proposition may mean any of the five relations except (*e*). It is not necessary, however, to investigate all of these relations, inasmuch as we can never be sure from its mere form that in a given case it does not mean (*d*). And in (*d*) neither class is "wholly within" the other. We may therefore conclude that neither term of the *I* proposition is distributed. (It may be objected that in the *I* proposition, as in the *O* proposition, the predicate-class is "wholly without" a *part* of the subject-class. The *I* proposition, however, as an affirmative proposition, gives us no information concerning the *exclusion* of one class by another, but only concerning inclusion.)

Having shown that for ordinary purposes the proposed definition is equivalent to the conventional definition, let us now clear up the mystery of the partial inverse. Given "All *S* is *P*" as the original proposition, and "Some non-*S* is not *P*" as its partial inverse, it is indeed true that *P* is distributed in the inverse and undistributed in the invertend. In the invertend, however, it is undistributed with respect to *S*; and in the inverse, it is distributed with respect to

non-S. And this is no more of a contradiction than to say that John is tall as compared with William, but short as compared with Henry.²

The "hypothesis of distribution" does not, then, "break down" in the case of the partial inverse; for in this case the rule of distribution is simply irrelevant. Whatever may be said of the pedagogical difficulties encountered in dealing with the notion of distribution, and of the advantages and disadvantages of other methods of exposition, the rules of distribution need not involve us in contradiction. All that is necessary is to reformulate them in accordance with a more accurate definition. The rule for conversion will then become: *No term of the converse may be distributed with respect to the other term unless it was distributed with respect to the same term in the convertend.* And the rules for the categorical syllogism may be expressed after this fashion: *The middle term must be distributed with respect to at least one of the other terms of the syllogism; while Neither term of the conclusion may be distributed with respect to the other, unless in the premise in which it appears it is distributed with respect to the middle term.*

The essential point of the proposed formulation is recognition of the relativity of distribution. If distribution is defined as a relative concept, the rules are necessarily more complicated than those to which we are accustomed. For most purposes, however, the rules ordinarily given will be found sufficiently precise, and they may be considered as approximations to the more adequate formulations suggested above.

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REVIEWS AND ABSTRACTS OF LITERATURE

An Examination of William James's Philosophy. J. E. TURNER.
Oxford: B. H. Blackwell. 1919. Pp. 76.

In this little book we behold William James quoted against himself, a spectacle which Mr. Turner considers quite damaging to the reputation of a philosopher, but which probably would not worry James so much. Sometimes, I think, the inconsistencies are unduly sharpened, as in the criticism of the lecture on "Pragmatism and Common Sense." Occasionally Mr. Turner takes James's language too strictly, thus using the style, which he praises for making philosophy popular, against its author. In the main, however, the ap-

² This is substantially the solution suggested by Keynes. See *Formal Logic*, p. 107.

parent contradictions to which he points are unmistakably in the text. James would probably have pleaded guilty to most of these charges, but would have declined to be measured by Mr. Turner's standard, for the two men disagree rather fundamentally as to the nature and limitations of philosophy. James sought "a fresh perception every day," and was not in great haste to adjust these to one another. Mr. Turner, however, demands of philosophy first of all that it be consistent, and as he has no difficulty in finding contradictions in James's work, he believes it to be superficial rather than profound. James held that "no philosophy can ever be anything but a summary sketch, a picture of the world in abridgment, a fore-shortened bird's-eye view of the perspective of events," and Mr. Turner "thinks we find in this characterization of philosophy the essential defect of James's whole general position." "Had James risen above what we believe must in truth be called this very superficial view of the real nature of philosophy, his treatment of its problems would surely have been more fruitful and final. . . . Philosophy deals not with facts and events merely as such, but with their underlying and determining principles, with a rationale, however vague and inadequate of the universe in its infinity." James takes philosophy somewhat too lightly, and his treatment of its problems has led many into confusions, so that "the tendency of his teaching, taken as a whole and in the long run, is not 'on the side of the angels.'"

This difference in opinion as to the nature of philosophy appears most clearly in Mr. Turner's criticism of James's theory of truth. He distinguishes between the identification of true theories and the explanation of their truth. Identification is simply a matter of empirical observation; explanation alone concerns philosophy. Mr. Turner admits that pragmatism shows us a way of identifying true theories, at least the "meaner kind," for "if a theory works (in the long run) it is true." But this does not imply that "because a theory works, therefore it is true." The real problem for philosophy arises only when we ask the question "why a true theory works," and to explain this is "always a matter of distinctly rational thought, not discoverable from experience and experiment."

This distinction between identification and explanation is an important one, but Mr. Turner's own account of truth seems to me less adequate than James's to explain the fact that a true theory works. In his view "Truth is the harmony, the internal agreement of the system of conceptions and ideas which our thinking gives us." He criticizes James for not considering this coherence theory of truth at all. But just as Mr. Turner admits that true theories work in

the long run, so James admits that in a science the various principles must be somehow adjusted to one another. And again, just as Mr. Turner claims that the working of a theory is not the cause of its truth, may not James reply that the consistency of principles with one another is not the cause of their truth? In brief, does not Mr. Turner's definition give us simply another way of identifying true theories rather than an explanation of them?

The fact is that no definition of truth "explains" it; for an explanation, we must go beyond the thing to its setting and conditions. This Mr. Turner admits. If James were asked why a true theory works, he would undoubtedly answer because it agrees with reality, though he would also insist on interpreting this "agreement" in his own way. He would say the theory agrees with reality not in the sense that it "looks like" reality, but in the sense that it can be used in real life. Mr. Turner, however, rejects any correspondence theory, and shuts himself up within the circle of "the coherent system of conceptions which thinking gives us." This last clause "which thinking gives us" leaves Mr. Turner a way of escape which may however involve the abandonment of his position. He admits that the "conditions of thought in themselves form an absolutely essential element of the problem, though they are never the only element." But the whole question turns on the proper description of these "conditions of thought." The essence of the pragmatic position is to take issue with the older correspondence theory's description of thought as making a picture of reality, and to insist that it is rather a dealing with reality. I believe that Mr. Turner cuts himself off from the correspondence theory so completely because he interprets it as necessarily implying that thought is making a picture of reality. Otherwise he might have turned to a sentence of Mr. Bradley's, whom he is so fond of quoting, "The truth and the fact, which to be converted in the Absolute, would require less re-arrangement and addition, is more real and truer." Could not this be entered in the field as one of the rival solutions of the real problem which is, in James's words, to tell "what may precisely be meant by the term 'agreement' "? Of course, it has the disadvantage of being, as Mr. Bradley himself says, "impossible to handle."

The fact that Mr. Turner and James select different qualities of truth as the surest marks of identification is very interesting in itself. Both select qualities that lend themselves to eulogy, but eulogy of very different kinds, so that these choices may be regarded as value preferences. Mr. Turner's truth is a "coherent system of pure principles," of which "only the meaner can be verified by reference to sensible facts." For James those "intellectual products

are most true which most successfully dip back into the finite stream of feeling, and grow most easily confluent with some particular wave or wavelet."

Mr. Turner is not unsympathetic in his treatment of pragmatism, but he has less patience with pluralism and radical empiricism. He thinks that a universe simply can not be pluralistic, and in his enthusiasm to maintain this view I believe he pays too little regard to the sense in which James held the universe might be pluralistic. He quotes with approval the statement that "reality is an experience-continuum," and sees in the word "continuum" the inevitable reversion to monism, especially since James also believes that our experience of the "visible world" and of the "spiritual universe" can be connected and continuous. "Can we imagine a wider and more direct contrast," he asks, "the world of sense and the world of the spirit—surely here, if anywhere, must we remain pluralists. On the contrary, however, James asserts these two worlds to be essentially one." Mr. Turner goes still further in his criticism. Ever since Kant "it has been an accepted principle of philosophy that our 'direct apprehension' of the universe is only possible through the work of thought." To say, therefore, that "reality is an experience-continuum" is not only to affirm that reality is monistic, but also to hold that it is an intelligible whole, penetrated through and through with thought and rationality.

Surely James is unfairly fettered here to the terminology of post-Kantian idealism. It is a fact that he repudiates "atomistic empiricism" and holds that "experience flows as if shot through with adjectives, and nouns, and prepositions, and conjunctions," but does he admit that these relations are the work of thought? Of course, they may be the work of what Kant called thought, but they certainly are not the products of intellect working in that capacity which results in the "vicious intellectualism" criticized by James. We must distinguish between a proper use of intelligence and this "vicious intellectualism," which James defines as "the treating of a name as excluding from the fact named what the name's definition fails positively to include." Mr. Turner well points out that James's over-enthusiastic language in his critique of intellectualism blurs the distinction considerably. For example, James criticizes thought for making motion unintelligible by defining it as "the occupancy of serially successive points of space at serially successive instants of time." Surely the trouble here is not with thought in general, but with a specific case of bad thinking giving rise to a bad definition. It is difficult on the basis of James's words to describe that proper use of thought which aids most in apprehending reality; certainly his

language is at times uncritical, and would imply that thought gave no clue to reality at all. But perhaps Mr. Turner errs by excess in the opposite direction when he argues that because the experience-continuum has relations in it, therefore it is a thoroughly rational and intelligible whole.

James affirmed that everything may be in a sense One, but denied that everything is significantly One in the sense taken by absolute idealism. "The world is One—yes, but how one," he asks. In his view all attempts to reduce everything to a single, self-consistent principle have had either of two consequences; the principle has left something unexplained, or else has been so vague and colorless as to be insignificant. There is either something outside the Absolute, or it is like an attic in which everything is simply there to be found. But why say an attic, why not "a perfect whole"? Why indeed? The eulogies upon the Absolute are the work of passion, and, as Hume said, "though we may enjoy the passions, they do not give us knowledge." James did not share this tender feeling for the Absolute, and he too judged things by the way they felt, interpreting the universe, as Professor Miller finely puts it, by its tertiary qualities.

Mr. Turner is grateful to James for having brought philosophy out of the study. He shows a fine appreciation of James's prejudices, which is remarkable in view of the fact that his own are apparently so different. His plea for the harmonious self-sufficiency of Mr. Bradley's metaphysics is persuasive because he offers it for what it is, and by the side of its very opposite. He "acquiesces in the opinion expressed by Mr. Bradley that James, with all his excellencies, was not primarily a metaphysician." The comment is true, if one believes in a "block-universe," such as makes Bradleian metaphysics appropriate. But William James did not believe in that kind of a universe, and therefore he was not that kind of a metaphysician.

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Æsthetics: A Critical Theory of Art. HENRY G. HARTMAN. Columbus, Ohio: R. G. Adams and Co. 1919. Pp. 250.

"Æsthetics as it exists to-day is a big name for ideas so anemic that I marvel at their longevity." So reflects Professor Hartman in this book which purports to offer a new and adequate method for esthetic theorizing. Nearly half of the volume amounts to an attack upon other men's methods and results; and it is this half that is unquestionably the abler. It is no new tactics for the writer upon

the philosophy of the beautiful to gain impetus and derive a kind of inverted glory from his exposure of the follies of his predecessors. Nor is it illegitimate tactics. Nowhere, probably, in the field of human thought is there to be found so much confusion, misunderstanding, and futility as in the field of esthetic speculation. Nowhere, consequently, is negative criticism so pertinent. The successful critic pays a penalty, however, almost in proportion to his success. The expectation he raises, upon the ashes of the principles and definitions which he has demolished, of something thoroughly original and illuminating in the way of new explanations, is nearly always doomed to defeat. Those dedicated to the work of research in this subject which surpasses all others in intricacy and difficulty should perhaps find sufficient consolation for their own failure to erect the One True Theory, by reflecting upon their privilege in sharing in so splendid an enterprise as the search for the nature of Beauty—a thing beyond all others inaccessible and baffling. Even their participation in the labor of demolishing former structures may be regarded as a not wholly negative contribution to that enterprise—particularly when, as in the case of Professor Hartman, the various rival theories are not abandoned altogether, but are shown each to possess a degree of truth, even if not a monopoly of it. The fifth chapter, entitled “Formulas and Methods in Art Theory” is in this connection the most noteworthy. In it Professor Hartman displays patience and acumen. But able criticism of prevailing methods and points of view is not limited to this portion of the work; and further appreciation of such criticisms must be left to readers of the entire volume.

In the first four chapters, “Beauty and Art,” “Art and Theory,” “What is Art?” and “The Substance of Art” are successively discussed. The last three chapters deal respectively with “Painting,” “Poetry,” and “Music,” the only arts specifically treated. With these last chapters we shall not however be concerned in this review. Much of their content is comprised of conventional discussions of conventional topics. Old definitions are rejected and supposedly new ones offered which are of little import for a new vision of art—as for example, the definition of poetry as “a matter of verbal meaning, arranged and affected rhythmically and conventionally” (p. 180). None of Professor Hartman’s general point of view is revealed in these chapters which was not already revealed in earlier ones; and it is with that general point of view—with the dominant contention of the book—that the reviewer wishes to quarrel. To the reviewer, one half of that contention appears to be false, and one half a truism of common acceptance.

In his preface, Professor Hartman states his contention. "I insist," he says, "upon a description of the concrete element of the different arts in order to nullify the usual conception of art as something unitary or generic." And further (p. 15) "Beauty in painting is not one and the same thing with beauty in music or poetry. Beauty in painting is as distinctive as the phenomenon of painting itself, and the beauty of music is as different from it as music is from painting. Regard beauty as removed from its concrete material and we may ask: What is that beauty in painting divorced from color which you say is one and the same thing with beauty in music divorced from tone? Affirm a beauty in music and painting that is independent of the materials respectively presented in music and painting, and you would have an idea of beauty totally bleached and depleted of content."

The part of Professor Hartman's doctrine with which we may heartily agree is to the effect that the several arts in their concrete individualities offer an unparalleled field for esthetic theorizing. The only trouble with such an article of faith is that it is so completely uncontroversial. It is impossible to overlook the fact that the great bulk of the philosophy of art takes the form of a philosophy of one or another of the arts regarded singly, in all its concreteness. It is equally impossible to overlook the fact that those theorists who have taken interest in the more general problems involving many fields—problems of origin, and affiliations, and fundamental and generalized technique—have in nowise implied that they considered such problems exhaustive of the subject or in any sense a substitute for more detailed and particular study of the various particular fields. What such theorists bear witness to is their conviction of the importance of those broader problems with which they are engaged. With this conviction our author does not agree. In fact the negative and questionable part of his doctrine, of which his book is an elaboration, consists of the dogma that all questions as to the nature of the arts in their generic character, or of beauty as something shared by many diverse forms of creation, are mistaken, vain and unprofitable.

To carry this contention to its logical extreme would be to insist that any treatment of the supposed beauty common to many masterpieces of painting or of poetry or of music would be illegitimate on the ground that each work of art is individual and owes its merits to its own particular blend of unreproducible qualities. This absurd extension of the principle is not only permitted by the nominalistic point of view; it is necessitated by it. But there is for the esthetician no obligation to accept nominalism. Indeed, the arguments against it are as pertinent here as in the various fields of exact science. Unless

there be some qualities in common to justify the shared name, how can we speak of *the arts* at all? Unless in the midst of many diversities there be some constant element, how may we intelligently use the word beauty to designate a quality or effect common to many different contexts? And if there be justification for our common and apparently intelligible practise, surely we are given sufficient warrant for inquiring into the nature of what thus finds exemplification in many places and under many different circumstances.

It is to be deprecated whenever, in the interest of greater attention to the concrete aspects of the world, a yet further move is made to destroy concern for its less variable, less contingent, but no less real aspects. In the field of esthetics we want, certainly, concern for the specific. But we want, no less, and as in the end contributory to the attainment of what is specific, unflagging interest in the broader questions of wide bearing and philosophic import.

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Non-Aristotelian Logic. HENRY BRADFORD SMITH. Philadelphia: The College Book Shop. 1919. Pp. v + 40.

When the reader's first feeling of shocked surprise has worn off, he will find that Professor Smith's speculations are not of so dangerously revolutionary a character as their external appearance would suggest. Non-Aristotelian logic is not an analysis of the workings of an insane mind, nor is it itself insane. It is a view, with a more or less novel perspective, of the various types of deductive inference which the sane among us distinguish as valid and invalid. In deductive logic, as in any mathematical science, the primary postulates constitute a species of definition of the terms that are assumed as indefinable. A radical change in the postulates implies, therefore, a change in the possible denotation of the indefinables; but when the necessary reinterpretation is made the new postulates may be, as a set, equivalent to the old. The serious question with regard to enterprises of this sort is not whether they are valid, but whether and how far they are instructive; and this has to be shown in each instance from its own fruits. It would seem that Professor Smith's work has not been carried far enough to permit one to make a very definite estimate of the possibilities of his method. Meanwhile, as a piece of pure speculation, it is at any rate interesting; and some of the results are very pretty.

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JOURNALS AND NEW BOOKS

THE BRITISH JOURNAL OF PSYCHOLOGY. November, 1919. *Instinct and the Unconscious* I (pp. 1-7): W. H. R. RIVERS. — The “all-or-none” principle and the absence of gradation as the distinguishing marks of instinct. In a postscript written six months later the author says he is inclined to continue the use of the word “instinct” as a term for innate mental process, and to distinguish different varieties of instinct according as they are or are not subject to the “all-or-none” principle. *Instinct and the Unconscious* II (pp. 8-14): CHARLES S. MYERS. — There emerge out of the unconscious not merely the more or less imperfectly repressed activities which have been dismissed from consciousness, but also fresh activities, intellectual as well as instinctive. In the unconscious germinate new instincts for the species and the creative flights of individual genius. *Instinct and the Unconscious* III (pp. 15-23): C. G. JUNG. — Instinct is characterized by the “all-or-none” reaction as maintained by Dr. Rivers, but the present writer finds it impossible merely to rely on the criterion of the “all-or-none” reaction as the “all-or-none” reaction is without any gradation of intensity in respect of the circumstances which call it forth. “Instincts are typical ways of action and reaction, and whenever it is a matter of uniformly and regularly repeated reactions we are witnessing instinct. It is in so far quite indifferent whether there is an association with conscious motivation or not, and it is also indifferent what the momentary individual form of action is.” *Instinct and the Unconscious* IV (pp. 24-26): GRAHAM WALLAS. — The writer does not think that “suppression or dissociation is the most effective way by which civilized man gains control over his instincts. Dr. Rivers’s argument as to the “all-or-none” nature of instinct raises the further question whether the bringing into consciousness of an instinct weakens, or intensifies, or, as he would seem to argue, leaves unchanged its actual manifestation. *Instinct and the Unconscious* V (pp. 27-34): JAMES DREVER. — Instinct is “determinate conscious impulse which is not determined by previous individual experience, but which nevertheless enters into and determines individual experience and attitude.” The unconscious will be consciousness mainly at or below the perceptual level, and therefore consciousness in which appetite and instinct will have the fullest play, but to identify the unconscious with instinct is impossible. *Instinct and the Unconscious* VI (pp. 35-42): W. McDUGALL. — The writer considers Dr. River’s “all-or-none” principle ill-founded. It is difficult to believe that the “all-or-none” principle holds good of the single nerve fiber or neurone.

If it were established, we should still have to believe that in the working of the higher levels of the nervous system it is completely overlaid and disguised by some compensating principle. "Instincts are innate dispositions, parts of the innate structure of the mind." *The Relation of Æsthetics to Psychology* (pp. 43-50): EDWARD BULLOUGH. — The problems of æsthetics are presented—individual *vs.* social factors, receptive *vs.* creative aspects, the origins of art, comparative æsthetics. *The Generation and Control of Emotions* (pp. 51-65): ALFRED CARVER. — Emotion is only one aspect of the internal adjustment which an organism makes in order more completely to adapt itself to sudden changes in environment. Other conclusions are also drawn. The illustrations and deductions are drawn from military life. *The Relation between the Word and the Unconscious* (pp. 66-80): JOSHUA C. GREGORY. — The "substitute sign" stimulates the mental process represented by the meaning it is to express when the final calculation is made and the mental process whose meaning is connected with the mathematical operation to which it is submitted. Signs like words are stimuli directive of mental processes that proceed largely unconsciously, like the organized dispositions responsible for them, and these mental processes, or reactions, may, more or less, according to circumstances, be conscious operations. *The Rôle of Interference Factors in Producing Correlation* (pp. 81-100): J. RIDLEY THOMPSON. — When the mechanism of correlation is one of overlapping and three variates are considered, a condition is known which, when fulfilled, gives certain evidence of the presence of a general factor. *On Listening to Sounds of Weak Intensity, Part I* (pp. 101-129): E. M. SMITH and F. C. BARTLETT. — The aim of the research is to devise apparatus and methods by which a satisfactory auditory acuity test may be secured and to observe in detail the influence of various objective and subjective factors upon successful listening to sounds of weak intensity. It may be concluded that some degree of practise is necessary before the lowest threshold of acuity can be secured, but it still remains doubtful if prolonged practise produces any further effect of this kind. *Publications Recently Received: Proceedings of the British Psychological Society.*

Chiochetti, Emilio. *La Filosofia di Benedetto Croce.* (Seconda edizione riveduta e ampliata.) Milan: Societa Editrice "Vita e Pensiero." 1920. Pp. 341. L. 10.75.

Eddington, A. S. *Space, Time and Gravitation: An Outline of the General Relativity Theory.* Cambridge: University Press. 1920. Pp. 218. 15s. net.

- Merz, John Theodore. *A Fragment on the Human Mind*. New York: Charles Scribner's Sons. 1920. Pp. xiv + 309. \$4.50.
- Owen, Dorothy Tudor. *The Child Vision: Being a Study in Mental Development and Expression*. Manchester, Eng.: University Press. New York: Longmans, Green & Co. 1920. Pp. xvi + 180. \$2.50.
- Pratt, James Bissett. *The Religious Consciousness: A Psychological Study*. New York: The Macmillan Co. 1920. Pp. viii + 488.

NOTES AND NEWS

A MEETING of the Aristotelian Society was held on June 21st, Mr. A. F. Shand in the chair. A paper was read by Miss Edgell on Memory and Conation. The view of three writers approaching the subject from the differing standpoints of philosophical psychology, biology and psychiatry, *viz.*, Professor Ward, Dr. Semon and Dr. Freud were examined with reference to the question: Does memory require the recognition in mental life of a specific function, conation? Analysis shows that for Professor Ward the activity of the subject of experience is essential both for the development of memory and for many of its manifestations. If activity of subject be understood as implying conation, then the author's theory of memory does involve conation. Dr. Semon, following Hering and Butler, regards memory as a function of all organic matter and its laws as laws of organic life. Nevertheless in dealing with human memory Semon recognizes "vividness" in imagery as essential for memory and association. Vividness is distinguished from intensity and made to depend on attention. The relation of attention to the laws of organic life is still obscure, and attention is treated as if it were an original force. The rôle of conation in the psychology of Dr. Freud is all important. It is the conation of unconscious wish which is regarded as explanatory, if not of the fact of memory itself, at least of many of the phenomena of remembering and forgetting in every-day life.

W. NESTLE has undertaken to bring out a new edition of the monumental work of Zeller, *Die Philosophie der Griechen*. The first volume has already appeared.

THERE is also to be published shortly the eleventh edition of the first volume of Ueberweg's *Grundriss*. Dr. Karl Praechter, who revised the preceding edition, published in 1909, has added to it considerably in the present volume.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

MODERN IDEALISM

IN discussing modern idealism, it may be well to limit ourselves to the years from 1910 to 1920. For American philosophy, at least, the year 1910 is a turning point. The period for some quarter century or more before that year had been dominated by the figures of James and Royce at Harvard; while Bowne at Boston, standing somewhat magisterially apart from his professional colleagues and largely ignored by them, nevertheless exerted a profound influence on thousands. Royce and Bowne were idealists, and Royce regarded James's pragmatism as an empirical idealism under Kantian influence.¹ In 1910 James and Bowne both died. By that year, Royce had done his chief work, although numerous significant writings were yet to issue from his pen. The time of the three great men had passed; and a new time had dawned. A group of the younger philosophers issued in that same year "The Program and First Platform of Six Realists," polemically directed against idealism, which they recognized as "the dominant philosophy of the day." Idealism was thus challenged by a realism which, however sincerely it disavows naturalism, is grounded in the categories of mathematics and natural science. This movement had been pre-saged in America by the founding of the JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS in 1904, as a rival to the essentially idealistic *Philosophical Review*.² The new realism was provided with its scriptural authority in this critical year, 1910, by the publication in England of Whitehead and Russell's *Principia Mathematica*.³ In Germany also in this year, Natorp opened his neo-Kantian *Grundlagen der exakten Wissenschaften* with the statement that relations between the sciences and philosophy were becoming much closer. We may comment that the sciences were in

¹ Royce, *Lectures on Modern Idealism*, p. 235.

² Professor Cohen's articles in the *New Republic* call attention to the importance of these periodicals in the development of American thought.

³ Vol. 1, 1910; Vol. 2, 1911; Vol. 3, 1913.

the asymmetrical relation of swallowing to philosophy. Under the influence of the spirit of the times, the moral, æsthetic, spiritual, and in some instances even the logical values cherished by idealism were taken out of its hands and given over to anthropology, history and psychology. More serious, perhaps, because more fundamental and far-reaching in its consequences, psychology itself was given over to biology, and behaviorism, ably seconded by neo-realism, banished consciousness itself. The outlook for idealism seemed dark.

As we now review in retrospect what in 1910 was prospect only, and a dismal prospect, we shall group our reflections about three main centers: first, the remarkable vitality of idealism; secondly, the definition of idealism and its types; and thirdly, an account of the main characteristics of idealism in the period 1910-1920.

I

The vitality of idealism in the past decade is one of the most remarkable facts of recent philosophical development. It is remarkable because, despite the situation in 1910, despite Mr. G. E. Moore's famous and subtle "Refutation of Idealism," written in 1903,⁴ and despite the attacks to which idealism has been subjected at the hands of pragmatic, instrumentalist, neo-realistic, and radical empirical opponents, it has both survived and grown. Indeed, in 1920 one may say that idealism is more vigorous and its position more secure than in 1910.

The leaders of philosophical thought in Germany during the decade have been Eucken, Rickert, Windelband and the neo-Kantians—all, in some sense, idealists, unless we except positivists like Riehl. The chief Italian philosophers of international fame were the neo-Hegelians, Croce and Varisco, and the personalist, Aliotta. Bergson, the outstanding figure in French philosophy, although hard to classify, is in the broad sense an idealist, influenced by the personalist Renouvier. In England, idealism has continued its tradition of productivity, under the leadership of Bernard Bosanquet, the second edition of whose *Logic* appeared in 1911, and whose two volumes of Gifford Lectures on *Individuality and Destiny* were published in 1912 and 1913. One need only mention James Ward, M'Taggart, Rashdall, Pringle-Pattison and Sorley to suggest varied contributions to idealistic thought. Special reference should be made to Norman Kemp Smith's *Commentary on Kant's Critique of the Pure Reason*, and also to his inaugural address as successor of Pringle-Pattison at Edinburgh, "The Present Situation in Philos-

⁴ *Mind*, 12 (1903), 433-453.

ophy.”⁵ In this address, Kemp Smith declares that “idealism, now as hitherto, is probably the philosophy of the great majority of men.”

The literary activity of idealism in America is somewhat less vigorous than in Europe. But that it has by no means ceased may be indicated by reference to such names as Hocking, G. P. Adams, and Hoernlé; or to the volume of essays in honor of James Edwin Creighton (1917), or to Royce’s posthumous *Lectures on Modern Idealism*, edited by Dr. Loewenberg in 1919, or to the presidential addresses at the American Philosophical Association by Miss Calkins in 1918 and by Professor Alexander in 1919.

This calling of the roll proves nothing about the truth of idealism, and does not completely establish the assertion that its position is to-day more secure than it was in 1910; but it renders probable that the much-announced, long-expected funeral service of idealism may delay its coming for yet another season; and that, instead, the phoenix may arise from its ashes.

II

But what is idealism? “Philosophy as the Art of Affixing Labels” has aroused the righteous antagonism of Professor Creighton.⁶ Nevertheless labels there must be if men are to understand each other; only it is important that the labels mean something, that they be clear and true descriptions of that to which they are affixed. Is “idealism” such a label? We have affixed it to Natorp and Bergson, G. P. Adams and McTaggart, Bosanquet and James Ward. If these are equal to the same thing, idealism, they assuredly are not equal to each other. Whatever idealism may be, if we are right in calling these men idealists, it is a very catholic and inclusive thing, a sort of Messianic Age in which the lion and the lamb lie down together. The question, What is idealism? is difficult and urgent, but at the same time it is threatening to evaporate into triviality. For it appears that if you succeed in defining it, you will have devised a label so blanket-like, so all-covering as to be meaningless. Neo-realism itself turns into idealism; for, in a sense, Professor Perry’s meliorism, and, in another sense, Professor Spaulding’s neo-realism of ideals are both idealistic. If Saul is also among the prophets, what becomes of prophecy?

The historic difficulty, however, with the term idealism has not been this one of meaninglessness, but rather that of an over-rich multiplicity of meanings. Perhaps we may best arrive at a concept of the genus idealism (if such there be) by a consideration of some of

⁵ *Philosophical Review*, 29 (1920), 1-26.

⁶ This JOURNAL, 17 (1920), 225-233.

the various particular types of meaning that have been attached to the term.

If we consult that being indispensable to the philosophical vivisectioner, the man on the street, he will be able to give us a description of his notion of what an idealist is. He will picture the dreamer of the ought-to-be who ignores the is, the follower of the gleam, the seer of "the light that never was, on sea or land," hence (descending to his own vocabulary) an utterly impractical person. It has been urged in a political convention that a certain candidate was a man of ideals "but not an idealist." Now technical philosophy can not admit such ready-made, question-begging epithets into its collection of orthodox labels. Leaving to one side as not enlightening the usual connotation of dreamy unpracticality, the concept of idealist as that of any one who believes in ideals is much too broad to be significant. The class of believers in ideals would include every one who in any sense longs for, desires, admires, or approves any status or object in the universe other than his present situation; for this other status or object would in some sense be an ideal for him. Thus every human being in his senses would be an idealist.

Philosophical idealists have believed something much more specific, and have often conceived of ideal values as being more than objects desired; as having, indeed, some sort of objective existence in the real universe which conferred meaning on the desires directed toward them; an existence not in the world of space and time, but in some transcendent realm or order of eternal being. This idealism, a belief in the objectivity of value, is held in varying senses and degrees, by thinkers in our decade such as Bosanquet, G. P. Adams, Pringle-Pattison and Sorley. We might well denominate this the Platonic type of idealism, without attributing a complete Platonism to its modern representatives. It is worth while at this point to emphasize again the fact that Professor Spaulding's anti-idealistic *New Rationalism* is, in the end, a form of Platonic idealism.

It might be thought that the definition of the Platonic type is adequate as a definition of idealism in general. This would be most natural for those to believe who accepted the neo-realistic dogma that idealism is absolute optimism; for absolute optimism is objectivity of values with a vengeance. But not only may one believe in the objectivity of values without being an absolute optimist (witness Professor Spaulding), just as one may believe in the objectivity of nature without being a naturalist; but also one may be an idealist, of a very important type historically and contemporaneously, without belief in the objectivity of values, or at least with-

out making that belief the logical center of gravity for one's thought. Ask any young student of philosophy what idealism is and he will ordinarily say nothing of the objectivity of values. He will speak rather of the theory that reality is throughout of the nature of consciousness; or at least that everything knowable is of that sort. One or both of these conceptions is central in the thinking of Berkeley, Hume, Mill, Kant, Fichte, Hegel, Schopenhauer, Lotze and many others, including a neo-Hegelian like Croce, but not Bosanquet or Creighton. The presence of Hume and Schopenhauer on the list proves that belief in objectivity of value is not always associated with this type of idealism. The predominant interest of the type in consciousness, based largely on the influence of Descartes and Locke, received its chief classical formulation in Berkeley. Hence we shall call this type the Berkeleian. The name is not intended to impute to others than Berkeley either his empiricism or his metaphysics; but it may serve to point out what, in the modish, up-to-the-minute jargon, would be styled their common "mentalism."

Thus far we have arrived at two types of idealism, the Platonic and the Berkeleian. These two types are not quite identical with the two designated Platonic and Berkeleian by Edward Caird;⁷ they are, however, closely related to what he appears to intend. But that even Caird's authority would not justify us in regarding this classification as exhaustive (if it was so designed) is evident to any reader of Caird himself, or of Professor Creighton's well-known article on "Two Types of Idealism,"⁸ wherein he draws clear distinctions between the Berkeleian mentalism and "speculative philosophy." The latter label was suggested by Bosanquet as a substitute for the older term, "absolute idealism."

Now a question might arise as to whether the speculative philosophy would not better be classified as of the Platonic type, expressing, as it does, a belief in the objectivity of value. "The characteristic mark of idealism" (in this sense), says Professor Creighton, "as it is found in the great systems, is its direct acceptance of things as having value or significance." Strictly speaking, then, absolute or speculative idealism is a species of the genus Platonic. But for two reasons it may be well classified as a separate type; first, because it is so stately and so influential a form of idealism that it would be unhistorical to deny it a separate rubric; and secondly, because, although it equates value and existence and thus maintains the objectivity of value, in that very act it empties value of specific meaning; to make the absolute totality of all experience the one and only

⁷ *Proceedings of the British Academy*, I. (1903-1904), 95-98.

⁸ *Philosophical Review*, 26 (1917), 514-536.

value in the true sense is very near to destroying the value of value in our concrete, finite lives. At best, as Professor Perry has well pointed out, the outcome is "a monism of values," a "reduction of other values to one value," namely systematic unity or coherence, which, quoting again, "looks suspiciously as though it were dictated by the facts of nature."⁹ Because of the unique theory of value as logical coherence, total organic unity in a universe where everything is internally related, we are justified in making a third category, to include "speculative philosophy," and systems related to it, such as Kantianism and neo-Kantianism. Kemp Smith's *Commentary* has shown that the modern coherence theory has its roots in Kant. This type, then, might be called logical or organic idealism, or Hegelianism. Platonism is richer and more flexible than this type; while Berkeleianism springs from a different root.

At least one other idealism is still out in the cold. I mean that in which the self or personality is the basic interest. Here, again, the classification does not sharply disserve the type from other types. Plato himself never forgot the soul; Berkeley recognized no ideas save for spirit; McTaggart and Miss Calkins, for instance, are organic idealists profoundly interested in the self as ultimately real. On the other hand, one may be a Platonic idealist, like Spaulding, or a Berkeleian, like Hume, or a speculative philosopher, like Bosanquet, and regard the finite self as something to be explained in terms of not-self, or to be somehow transcended in ultimate reality. The fourth type of idealism, which may be called the personalistic, is thus sufficiently distinct to stand by itself.¹⁰

Personalistic idealism, in the broad sense, has two chief roots, the epistemological and the moral. The epistemological motif comes from the Kantian emphasis on the activity of the self in knowing, which is prominent in the thought of many philosophers, such as Lotze, T. H. Green, Bowne and many others. The moral motif comes also from Kant, being derived from the doctrine of the primacy of the practical reason. Only persons can be moral; and one who is rationally led to accept the objectivity of moral values is naturally inclined to the view that such values can be objective only in an order of personal reality. A personalist finds a necessary relation between the Platonic and the Berkeleian types of idealism; for how can values be objective if not, as T. H. Green puts it, "for, of or in a person?" Since Lotze illustrated both the epistemological

⁹ *The Present Conflict of Ideals*, pp. 244, 246, 241.

¹⁰ The term "personalism," popularized in America by Bowne, has been applied to systems as diverse as those of Nietzsche and Renouvier; but it is a preferable equivalent to the older term "spiritualism," which connotes spooks.

and the moral aspects, personalistic idealism may be described as Lotzean.

There are, then, at least four main types of idealism. The first, the Platonic, asserts the objectivity of value. The second, the Berkeleian, holds that all knowable reality, and perhaps all reality *überhaupt*, is of the nature of consciousness. The third, the Hegelian, points to the coherence of one absolute system as the only true value or existence. The fourth, the Lotzean, finds in selfhood or personality an ultimate fact of fundamental significance. These are the great idealisms. What then is the long-sought-for definition of Idealism? Is there a common element in the four types? I must confess that I find it impossible to detect any such single element. The concluding paragraph of Bosanquet's *Logic* comes near to solving the problem. "The 'driving force of Idealism,' as I understand it, is not furnished by the question how mind and reality can meet in knowledge, but by the theory of logical stability, which makes it plain that nothing can fulfil the conditions of self-existence except by possessing the unity which belongs only to mind."¹¹ But this is not wholly fair to the epistemological motif of personalism, nor to some forms of Platonic idealism. In short, it is merely a broad definition of the speculative philosophy of Bosanquet. It would be safer to admit that it is impossible to define the generic term idealism with precision. If we proffer consciousness as the common element, we find some idealists of the unconscious; if we suggest mind, we find some idealists recognizing a nature not reducible to mental status; if we point to a common interest in personality, we are confronted with many cases of impersonal idealism, which refuses to regard finite or any other personality as ultimate.

Nevertheless we shall have a vague working definition if we say that all idealism is characterized by belief in the ultimate reality or cosmic significance either of mind (using the term in the broadest sense) or of the values revealed to and prized by mind. The term idealism is so embedded in the history of philosophy that the attempt to eradicate it made by Bosanquet is probably destined not to succeed. But if intelligibility is desirable, it is imperative to qualify the noun by some adjective like Platonic or Berkeleian or speculative (or neo-Kantian) or personalistic.

III

We are now ready to undertake our third task, that of giving some account of the main characteristics of the idealism (or rather of the idealisms) of the period 1910-1920. We shall call attention

¹¹ Second ed., Vol. II., p. 322.

first, to the struggle with realism; secondly, to the peculiar fate of epistemology; thirdly, to the sharpening of the distinction between speculative philosophy and personalism; and fourthly, to the increased emphasis on the philosophy of values.

First, then, we turn to the struggle with realism. American neo-realism was, as we have seen, formally launched in 1910. It is, on the face of it, hostile to every type of idealism. Mind, it asserts, is in no sense ultimate, nor have values cosmic significance or objectivity. What we have called mind or consciousness may be shown by analysis to be in reality a highly complex system of external relations among terms themselves neither mental nor conscious, but (famous new label!) "neutral." Of these homeless subsistents (orphans, and proud of it, spurning all asylums), entities which do not even exist, but are mere candidates for existence, the realistic universe of being is made up. Now the status of a candidate is notoriously obscure. If mind fare thus, values, being dependent on mind, are still further from the realm of the truly real. Thus runs the tale of the predominant tendency in American neo-realism. Professors Spaulding and Montague would of course reject various items in this account, but most of the school would probably accept most of the points mentioned.

Apparently there is no peace between such a tendency and idealism of any type. Neo-realism has attacked the Platonism of an objective order of spiritual values, the Berkeleianism of consciousness as a philosophical ultimate, the organic theory of truth of absolute idealism, and the metaphysical significance of the self or personality. Not a shred of idealism remains! Neo-realism proclaims itself as the new dogmatism, the ultimate metaphysic, the scientific philosophy, in opposition to the romanticism and paradox of all idealism. Even so moderate and temperamentally idealistic a "realist" as Professor Boodin, who eschews "neo"-realism, joins in the charge that "idealistic systems have one and all been romantic exaggerations."¹²

Idealism has met these attacks with numerous counter-attacks, asserting, *inter alia*, that realism is itself a highly artificial conceptual construction, and therefore presupposes some sort of idealism; that its analytic method, while valuable, is not, even when supplemented by synthesis, adequate to a knowledge of wholes or values, which demand a method of intuition and hypothesis or what Sorley calls a synoptic view. Realism is said to be an abstract and partial interpretation of the data, aiming, as it does, at the lowest terms of analysis instead of at the richest and most comprehensive unity of

¹² *A Realistic Universe*, p. xix.

experience; and it is also criticized for assuming the final and absolute truth of the present results of the mathematical and natural sciences, being as has been said by one idealist, more reverential of science than the scientists themselves.

It is impracticable for us to review this debate in the space at our disposal. But two items in the situation should be specified; first, the anti-historical spirit of neo-realism, and secondly, the realistic return to idealism.

The first point, the anti-historical spirit of neo-realism, may appear unfairly stated. It is true that the spirit of neo-realism may only with reservations be described as anti-historical. Professor Marvin has written a *History of European Philosophy*. Professors Perry and Spaulding have devoted themselves to the exposition and criticism of the main types of philosophical thought. Others have made historical contributions. The volume *The New Realism* opens with an interesting account of the historical relations of neo-realism. Despite all this, we are describing its spirit as anti-historical. For, speaking broadly, the school's verdict is that the history of philosophy is on the wrong track, or, if you please, entirely off the track and wandering in the wilderness. One who reads the neo-realistic literature comes away with the impression that most of Plato, practically all of Aristotle, certainly all of Plotinus, Descartes (except his saving mathematics), Berkeley (unless he was a realist in disguise), Kant, Hegel and Lotze, Bergson, Bradley, and Bosanquet, all and one, root and branch, are misleading and erroneous. Only certain aspects of Plato, Hume and Herbert Spencer are the recipients of good words. To substantially the entire history realism says, as no other important philosophical school has said, "*vanitas vanitatum*" and "*mene, mene, tekel, upharsin*"; yet to the present moment of mathematical science cries "*Verweile doch, Du bist so schön.*" This attitude is not wholly to be condemned. It aims to substitute a direct analysis of the given, a grappling with the facts at first hand for the traditional approach to every question *via* Plato and Aristotle, Kant and Hegel. But the value in this fresh first-hand study of the problems is not obviously contingent on a rejection of the history. The realistic tendency is extreme. The volume *The New Realism* is impatient and unappreciative of the philosophical tradition. It pleads for the separation of philosophical research from the study of the history of philosophy (pp. 29, 30)—a separation which most idealists would regard as opening the way for needless blunders in research and for a blind and barren type of historical study. The book indulges in questionable interpretations of Berkeley and Kant, discards "the entire British and Kantian psychol-

ogy, together with all modern disguised variations" (p. 402), specifies "neo-Hegelian imbecilities" (p. 347) and in general reflects the spirit of Mr. G. E. Moore's famous "Refutation of Idealism," which asserts that "all philosophers and psychologists also have been in error" on the point in which he refutes idealism.

Idealism, with its more tolerant and catholic attitude, with its synthetic interpretation of the history, has at least a cultural advantage over a view which proclaims apocalyptically that the truth which ye seek has suddenly come to the temple (and destroyed it) about A.D. 1910. The doubts raised by this situation are such that the most cogent mathematical logic can not quite still them. If the age-long struggle of human thought has been utterly deceived by its own illusions, it is hard to believe that the present is quite immune to self-deception. The *lex continui* obtains also in the history of philosophy.

The second special point in this connection was the realistic return to idealism. To see any such return may require the customary optimistic romanticism of the idealist. The situation makes at first the impression of a Babel of tongues. It is not so much that realism and idealism contradict each other as that, in certain respects, they are unintelligible to each other. Especially is this true of the theory of consciousness.

In general neo-realism has adopted the theory that consciousness is behavior. Now believers in consciousness and behaviorists are always talking past each other. One group speaks of thought, feeling, will, awareness; the other speaks of the responses of an organism to stimuli. But unfortunately both groups insist on using some of the same terms; although Professor Watson admits, as a consistent behaviorist, that he does not know what is meant by the terms consciousness, perception, attention, will and the like. The result is an amazing failure to join issues. Each party uses terms in what the other party regards as a Pickwickian sense. Idealism has the advantage here of recognizing the value of behavioristic method; while behaviorism is intolerant of idealism.

There are, then, senses in which there is no realistic return to idealism. If there is such a return, it is not in the flesh, but in the spirit; and not in the entire spirit. But underneath the confusion, many points of contact are visible. Take the worst case, that of behaviorism itself. This means that what have been regarded as relations among environmental and biological entities look so much like what has been called consciousness that behaviorists can't tell the difference. Idealists may either despair at the disappearance of consciousness, or triumph at its unexpected conquests in the objec-

tive order. Or take the fundamental analytic method of realism. It is a "New Rationalism"; it asserts, with explicit dogmatism, the objective validity of logic, and reduces the contents of our minds to "neutral entities" which "are all of such stuff as logical and mathematical manifolds are made of."¹³ A universe of logical concepts in logical-mathematical relations—such a universe would appear to be a variety familiar to idealism, in one sense Platonic and in another Hegelian, though in no sense Berkeleian nor personalistic. Realism denies that logic is "mental"; but this denial is probably less significant than its doctrine that logic is objective. Not only is logic objective; for the most recent document of the school, Spaulding's *New Rationalism*, values also are objective. Professor Spaulding avows a "neo-realism of ideals" akin to the Platonic belief in the eternal reality of justice and the Good. The radical difference between this view and the orthodox neo-realistic denial of a moral or spiritual ontology has not been sufficiently noticed. It is important enough to be described as a realistic return to idealism. Likewise Boodin's *Realistic Universe*, rejecting the tenets of neo-realism, expounds a realism that finds values ultimate constituents of the universal order, and Mr. S. Alexander, the English realist, is profoundly concerned to conserve values: "realism," he says, "strips mind of its pretensions but not of its value or greatness." If we have not here a return to idealism, we have at least an increasing interest on the part of realists in those "ethical and religious motives" that, according to Mr. B. Russell, "have been on the whole a hindrance to the progress of philosophy." That is, Mr. Russell's mood does not wholly dominate the school.

What wonder is it, then, that the realist McGilvary, on reviewing *The New Realism* commented that "there is not such a sharp issue between realism and idealism as most of us had supposed," or that Bosanquet, in his 1917 article in the *Philosophical Review*, was able to find some common ground with realism, or that Sheldon's doctrine of "productive duality" teaches that they may be reconciled?

But there remains a conflict on a fundamental issue out of which, in the opinion of a personalist, the troubles chiefly arise, an issue on which realists differ with idealists scarcely more than idealists differ among themselves—namely, the metaphysics of personality. The characteristics of idealism in our decade which remain to be considered are all concerned with problems growing out of this issue.

A second outstanding trait of the decade in question is what we

¹³ Holt, *Concept of Consciousness*, p. 114. Professor Holt now calls his book "an absurd hocus-pocus." This JOURNAL, 17 (1920), 379.

have called the peculiar fate of epistemology, which is closely related to the realist-idealist controversy as well as to the metaphysics of personality. Epistemology, or theory of knowledge, has been a central problem of philosophy since Locke. Kant brought it even more into the foreground. The very word epistemology was probably coined by the idealist, J. F. Ferrier, about the middle of the nineteenth century. There has always been a certain ambiguity as to just what epistemology is, and just what its relations to psychology, logic, and metaphysics are; but that a critical examination of the nature, function and validity of knowledge was an essential part, and a logically prior part, of philosophy had come to be a commonplace of thought. This is illustrated by the fact that when Bowne came to revise his *Metaphysics* in 1897-1898, he made it into two volumes—a *Theory of Thought and Knowledge*, and a *Metaphysics*.

Over against this situation is the present fact that epistemology is now in very bad odor, neo-realism and the speculative philosophy uniting to *écraser l'infâme*. As to neo-realism, witness Professor Marvin's essay on "The Emancipation of Metaphysics from Epistemology." The speculative philosophy is equally unambiguous. "In Logic, as I understand it," says Bosanquet, "attempting to follow out at a long interval the practise of the masters, there is no epistemology in the sense supposed."¹⁴ Professor Creighton tells us that the speculative philosophy "falls to work to philosophize . . . without any epistemological grace before meat" (p. 522). Nevertheless, and here lies the peculiarity of epistemology's peculiar fate, that discipline both is and is not rejected. For neo-realism's contribution to this confusion, we may cite Holt's statement that his *Concept of Consciousness* is "primarily an essay in epistemology and empirical psychology" (p. 209). About Russell's epistemological distinction between knowledge by acquaintance and knowledge by description rages much of the contemporary debate in England. In the idealist camp, the subtitle of Bosanquet's *Logic* is *The Morphology of Knowledge*. And Professor Creighton, speaking of speculative philosophy, says that "its logic and ideal of truth must be that of the concrete universal; so much is determined by the very form of experience" (p. 529). "There is only one thing that it is unable seriously to question: its own capacity to advance beyond any given limit; only one category that lies beyond criticism, and that is the category of intelligence" (p. 531). Out of their own mouths, neo-realists and speculative idealists are therefore convicted of a fundamental interest in the nature and function of knowledge. Why then do they reject epistemology?

¹⁴ *Logic*, second ed., Vol. II., p. 271.

At least three factors probably enter into this rejection. The first factor is the attempt apparently made by some epistemological philosophers to spin an entire metaphysics out of the sole data of theory of knowledge. Because the conditions of knowledge are what they are, these philosophers argue that reality must be of a certain kind. That this is a hasty and fallacious route to idealism or any other ontology was explicitly held by Bowne and would be universally conceded to-day. At the same time, this is not to deny the fact, obvious to most philosophers, that there is a close and unique relation between knowing and being. Indeed, one chief point in the speculative philosophy's attack on epistemology is the very fact that problems of knowledge and of reality are too closely intertwined to be separated.

The second factor is the artificial widening of the chasm between thought and thing, of which some epistemology has been guilty. The classical case of this chasm is the doctrine of the *Dinge an sich*, which held that the function of knowledge was not to know, was not to reveal but to conceal reality. This conception is an *überwundener Standpunkt*, except in positivistic circles. It is the common view of most idealists and realists that reality is knowable. An epistemology of intimate relation between thought and its objects has taken the place of that which interposed a chasm between them. The old epistemology changes, giving place to new; but precisely to a new epistemology.

The third factor is the attack on the activity of the self in knowledge. If there has been one constant element in the major epistemological tradition, it has been that all knowledge presupposes a unitary and active self. Thus spake Berkeley, Descartes and Leibnitz; Kant and probably Hegel; Ferrier and T. H. Green; Lotze and Bowne, Sorley and Miss Calkins—to mention varied instances. But the speculative philosophy of recent times substitutes for the activity of the self the purely logical conception of the organic whole of reality. Neo-realism also assails the notion of the activity of the self in knowledge, regarding the presence of the self in the knowledge-situation as merely an "ego-centric predicament" from which thought may and should abstract. The general motto is *ego delendus est*. An epistemology without a knower follows the psychology without a soul.

A consideration of the fate of epistemology has thus yielded two results. It has shown that the objection of our contemporaries to epistemology is not to epistemology as much as to the name, or, more fairly stated, to what is regarded as the wrong kind of epistemology. It has also shown that the most serious present departure from the

historical achievements of epistemology is to be found in the current rejection of the activity of the self in knowledge.

This prepares us for a sketch of the third main characteristic of idealism in our decade, namely, the clearer differentiation between speculative philosophy and personalism.

It can not be said that a lucid treatment of the problem of personality, finite or infinite, has characterized the history of philosophy. Kant's phenomenal and noumenal selves multiplied the problem and increased the woe. It was hard to tell what self Fichte was talking about. As to Hegel—there are the wings of interpretation, right and left, for you to choose from. Even Lotze was obscure. If you read the *Microcosmus* and the *Outlines of Philosophy of Religion*, you found much clear personalism; if you read the *Metaphysics* you felt that you were not far from impersonal Spinozism. Similar cross-currents may be detected in T. H. Green, and in the eloquent but turgid passages of Eucken.

Prior to 1910, however, there had already been a development in the direction of a clarification of the problem. In England, Andrew Seth (Pringle-Pattison) wrote his influential little book *Hegelianism and Personality* (1887), which, together with the work of James Ward, pleaded for a clear-cut definition of personality. From a different angle, M'Taggart made his own contribution to this end. In America, Bowne, more successfully than any one else, built up an explicit personalism; while others, notably Royce and Miss Calkins, were interpreting the fundamental importance of the self in being. But despite these currents, there was still much uncertainty and fumbling in dealing with the self. Bradley's critique of the self, together with his Absolute that is not personal because it is personal and more, is symptomatic of the prevailing confusion.

By contrast, the situation in the present decade is more promising. Many of the philosophers already mentioned continued their work,—James Ward, M'Taggart, Royce and Miss Calkins, for example. Especially significant is the fact that the speculative philosophy seemed to become more clearly conscious of the need of differentiating itself from personalism, and of aligning itself with the logical organic as opposed to the Berkeleian type of idealism. Bosanquet's volume on *The Value and Destiny of the Individual* (1913) is devoted to an attack on personalism and an exposition of a theory of the universe in which only the organic whole is of value. Professor Creighton's article, from which we have frequently quoted, is aimed at distinguishing Berkeleian "mentalism" (and presumably any form of personalism) from the speculative philosophy. Professor Hoernlé also discusses the issue in his *Studies in*

Contemporary Metaphysics. In England, Pringle-Pattison's *Idea of God in Recent Philosophy* is a personalistic counter-blast to Bosanquet, while Sorley's stately lectures, *Moral Values and the Idea of God*, are a less polemic argument for the dependence of all values on personality, and their objective reality in a divine personality. In 1918 the Aristotelian Society held a Symposium on the question, "Do Finite Individuals Possess a Substantive or an Adjectival Mode of Being?" in which Bosanquet, Pringle-Pattison, G. F. Stout and Lord Haldane participated. The persistent interest in the problem is indicated also by the Symposium of 1919, "Can Individual Minds be Included in the Mind of God?" by Rashdall, Muirhead, Schiller, and D'Arcy. The neo-realistic polemic against the self should be mentioned as contributing to the sharpening of concepts.

The renewed study of the metaphysics of personality and the consequent clear distinction between personalism and both speculative and realistic impersonalism are significant chiefly because of the relation of our conception of personality to our understanding of what is for most idealists the deepest category of intelligence, namely, the category of value. This category is one of vital importance to every human thinker of whatever school of thought.

Let us turn, then, to a consideration of the fourth and last characteristic of idealism in the past ten years, namely the emphasis on the problem of values. This emphasis is not confined to professed idealists, but is shared by many pragmatists and realists. Nor did it have its beginning in 1910. Modern interest in the problem is illustrated by the line Kant, Lotze, Ritschl. It has been increasingly the center of discussion ever since the monographs of Ehrenfels and Meinong in 1893 and 1894. Höffding's *Philosophy of Religion* in 1906 was an important event in the history of the theory of value. In this country, the works of Münsterberg and Urban, and the "Value Number" of the *Psychological Bulletin* appeared in 1909, significantly near the beginning of the period that we are interested in. During the decade, theory of value has been the subject of much discussion in the periodicals, and at the meetings of the American Philosophical Association. Professor Everett's *Moral Value* is a contribution to the ethical aspects, the writings of Professors Hocking and Coe to the religious. To the studies of the neo-realists in this field reference has already been made. The Englishmen, Bosanquet, Pringle-Pattison, Sorley, Galloway and others; the Italians, Croce and Varisco; the Germans, Eucken, Windelband and Rickert, have all, from various standpoints, discussed the problem of values. Out of so much intellectual labor, some results ought

to have been produced. We shall discuss a few only of these results in the light of the positions held by speculative philosophers and by personalists.

There are certain main lines of agreement between these groups. Both esteem the concrete, the fullest and richest interpretation of reality, as opposed to abstractions such as those of which neo-realism is fond. In fact, as others have seen, idealism is at this point tough-minded and thick, rather than tender-minded and thin.

Again, both speculative philosophy and personalism regard value as fundamental in knowledge and reality. Münsterberg viewed value as the basic *a priori* of all *a priori*. Royce quoted with approval Rickert's saying that "the ought is prior in nature to the real," and argued that a non-idealism can not avoid defining his real world in terms of his ideal.¹⁵ Sorley imparts a fuller meaning to the maxim which Lotze preached but did not fully practise, that "ethics is the true beginning of metaphysics."

The different idealisms also agree in the conviction that finite personality does not find in its empirical career alone any adequate account of the highest goods of life. As Norman Kemp Smith says, "the supreme concern of idealism is to show that the æsthetic and spiritual values have more than a merely human significance" (p. 15). Anti-idealism is expressed in Professor Bush's failure to see why human values are any less valuable because merely human.

A final point of agreement between the two idealisms is the fact that both, in their deeper intention, seek to preserve the values of finite personality itself, as well as the objective values with which it is concerned.

These points are accompanied by divergences so great that the agreements might appear, and do appear to some, to be merely verbal. But after all, only a harsh and dogmatic school orthodoxy would deny that the two types of idealism have a common interest in the objectivity of value, to a considerable extent are animated by a common spirit, and come to a few common conclusions. But, as we have said, the divergences are very great.

For speculative philosophy, the one and only true value, in and from which all finite persons derive their meaning is the complete organic system of truth. This system is self-sufficient; it is not a person, nor does it exist for any person; all persons are finite fragments of it, the Whole. Personalism, too, holds that truth must be a consistent system; but it regards as irreducible the distinction between truth, which is a description of reality, and the reality described, which is the life of a society of persons. This society owes

¹⁵ *Lectures on Modern Idealism*, pp. 237 f.

its existence and unity not alone to systematic coherence, but to the interrelations of finite personal wills and the underlying will of one Supreme Person. Personalism, then, would regard the professedly concrete system of speculative idealism as abstract, because it places system above personality, for which alone a unitary system of any kind has meaning. It makes personality subservient to system, instead of system's being subservient to personality. Personalism finds value to consist not in an ultimately impersonal coherence to which persons are subordinated, but rather in a society of persons, attaining common purposes, and realizing common ideals; such that these purposes and ideals find their significance in being the expression and fulfilment of persons and what they ought to be. This is more than a difference in emphasis. It is a difference in standard of value, the difference that is vital to all theistic philosophy.

Perhaps it is only another way of stating the same idea to say that for speculative philosophy (as for neo-realism) logic is the discipline of chief metaphysical importance; whereas for personalism, ethics is more significant than logic. Logic may with greater plausibility be stated in impersonal terms; ethics, however, has always to do with persons. If the world order is purely logical, speculative idealism may be true; if moral values are objective, personalism is probably true.

A final point of divergence turns on the problem of meaning and existence. Professor Creighton's article best presents the case for the speculative philosopher. The category of existence, he argues, is not fundamental, but is a barren abstraction. "Meaning" (value) is rather the basic category, which is richer and includes existence. Thus far, he is asserting only ground common to the speculative philosopher and the personalist. But he interprets it to mean that mentalism, the interpretation of value in terms of psychic existence, is excluded. Now this appears to a personalist to go further than the assertion that meaning includes existence; it appears to reduce existence entirely to meaning. *I. e.*, it is an abstraction of meaning from existence. For personalism, on the contrary, meaning and value always include a reference to personal existence of some sort. Not only is every meaning the act of a self; but that which it means is also wholly personal, namely further acts of some selves or principles of their activity.

Personalism holds, as Sorley has in substance argued, that a value which does not exist is, as non-existent, no value at all, and that the value of a value consists in some type of actual or possible embodiment in personal life, finite or infinite. Without existence, no value. Without personality, no existence. The personalist does

not desire the self as an opportunity for intoning the blessed words "I am I," but rather as a center from which to interpret and to develop a real and moral world order.

Our philosophical standpoint must meet the acid test: does it justly interpret life as a whole? Does it envisage all the facts? Does it make all the facts intelligible? No philosophy of the past decade, nor of any decade, comes out unscathed from this test. Our study may direct attention to the efforts of idealism to meet the conditions of the test. If we look ahead in the light of the recent history of thought, we may venture the opinion that the outlook for idealism, and for personalism in particular, is by no means unfavorable.

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THE LESSER HIPPIAS

AMONG the least fortunate of the dialogues of Plato in the attention it has received from the critics and historians of Greek philosophy, is the *Lesser Hippias*. As misfortunes go, this is not a great one. Few, if any, of the writings of Plato are of less importance than the *Lesser Hippias*. The world would not be appreciably poorer if it had never been written or had passed into an early oblivion.

The fact remains, as I hope to make clear, that this little dialogue has been grossly misappreciated and misunderstood. And though the dialogue is unimportant, the misunderstanding is not; for it is a symptom of misunderstandings of greater scope and moment. There is nothing especially abstruse in the *Lesser Hippias*. Its general construction and its procedure in detail are simplicity itself. There is nothing in it beyond the comprehension of an intelligent boy of fifteen. When such a document is misread by men of considerable philosophical and philological attainments, a far-reaching cause is presumable.

As a fair example of what the commentators have done with the dialogue, the following, from the judicious Raeder, may serve:

"Hippias, who values the honorable Achilles more highly than the lying Odysseus, is forced by Socrates to admit that in lying ability (*δύναμις*), insight (*φρόνησις*), knowledge (*ἐπιστήμη*), and wisdom (*σοφία*) are involved (365 D-E). Whereas in the *Io* (531 D ff.) it is said that the expert knows how to judge both those who speak correctly and those who speak falsely, the point is here (366 C ff.) that he who knows the truth is by virtue of that very fact able to

assert the false—*i. e.*, to lie—if he wishes, with the greatest certainty, while the ignorant man runs the risk of speaking the truth by mistake. Accordingly, one who lies intentionally is superior to one who speaks the truth by mistake;¹ and this assertion can, of course, easily be extended from lying to injustice in general. For when it is granted that justice rests either on ability or on knowledge or on both together, it is evident that if a bad action is committed by a man who has ability and knowledge, the action must spring from his ability and skill, and be intentional; while if one does wrong unintentionally those characteristics are lacking to him.

“That this thesis is advanced as a conscious paradox, is seen at the end of the dialogus, where the hypothetical expression appears, that he who does wrong intentionally, *if indeed, there be such a one*, can be no other than the good man (376 B). For, according to the Socratic-Platonic doctrine, voluntary wrong-doing is impossible, as is also presupposed in the *Apology* (25 D–26 A).”²

Now, to begin with, Hippias is *not* forced by Socrates to admit that ability, insight, knowledge, and wisdom are involved in lying. He states all this freely. It constitutes, if you please, *his* thesis; it is exactly the position which Socrates proposes to criticize by pointing out some of its consequences.

In his lecture Hippias has said that Homer depicted Achilles as the bravest of the men who went to Troy, Nestor as the wisest, and Odysseus as the craftiest (or wiliest)—using this last term (*πολυτροπώτατος*) as if it had an evil connotation (which in Homer, of course, it has not). In reply to Socrates’s request for an explanation, he declares that he understands “crafty” to be equivalent to “deceitful” (*ψευδής*). This is the point of departure of the formal discussion: the identification by Hippias of the extraordinary resourcefulness of Odysseus with deceitfulness.

The discussion begins: “*Soc.* Are deceivers, according to you, characterized by being unable to do something—like the sick—or by being able to do something? *Hip.* By being able, I should say, very able indeed, especially in hoodwinking men.” Now Raeder, like the commentators generally, overlooks the fact that no Socratic philosopher could possibly accept as true an affirmative answer to this question. According to the Socratic way of thinking, the correct answer should be: “They are characterized by weakness and inability, and it is this that makes them deceitful.” Compare the striking passage in the *Gorgias* (469 D–470 A), in which Socrates comments on Polus’s definition of tyranny as “the power of doing

¹ Let it be remarked in passing that this particular comparison does not occur in the dialogus.

² *Platons philosophische Entwicklung*, p. 94 f.

whatever seems good to you in a state, killing, banishing, doing in all things as you like." "Suppose [says Socrates] that I go into a crowded Agora, and take a dagger under my arm. Polus, I say to you, I have just acquired rare power, and become a tyrant; for if I think that any of these men whom you see ought to be put to death, the man whom I have a mind to kill is as good as dead; and if I am disposed to break his head or tear his garment, he will have his head broken or his garment torn in an instant. Such is my great power in the city. . . . But can you believe that this mere doing as you think best is great power? . . . And you would admit once more, my good sir, that if, when a man does as he pleases, his actions turn out to his advantage, it is a good thing, and this, it seems, is what it is to have great power; and if not, then it is an evil thing, and it is to have little power."³ It is in accordance with this principle that the Socrates of the *Gorgias* argues that "successful" injustice is the worst of evils.

In the *Lesser Hippias*, then, the answer that Socrates's question calls for is exactly the opposite of that which Hippias gives. The latter thinks that the deceiver is made what he is by a peculiar ability. The former would hold that all the ability which the deceiver possesses is perfectly consonant with the most entire veracity; and he maintains explicitly that, *on Hippias's assumption*, no distinction between the honest man and the deceiver can be made out. But before proceeding to the demonstration of this proposition, he takes time to emphasize and clarify the assumption itself. Let us glance over this part of the dialogue, and annex to the replies of Hippias those which, on Socratic-Platonic principles, are alone correct.

"*Soc.* They [the deceivers] are powerful, then, it seems, as well as crafty, are they? *Hip.* Yes. (*On the contrary, they are weak.*) *Soc.* Are they crafty and deceitful by reason of silliness and folly, or by reason of cunning and a certain prudence? *Hip.* By reason of cunning and prudence, most assuredly. (*By reason of the most deplorable silliness and folly.*) *Soc.* They are prudent, then, I suppose? *Hip.* Yes, by Zeus, very much so. (*No, indeed.*) *Soc.* Being thus prudent, are they ignorant of what they do, or do they know? *Hip.* They know very well, and that is why they do mischief. (*They know not what they do, and that is why they do mischief.*) *Soc.* Knowing, then, what they know, are they ignorant or wise? *Hip.* They are wise in this respect at any rate—in practising deceit. (*They are ignorant, in this respect at any rate.*)

The *Gorgias* again provides the best commentary. Says Socrates (474 B): "For I hold that you and I and all other men believe

³ Jowett's translation, slightly altered in accordance with the text of Burnet.

that to do injustice is a greater evil than to suffer it, and that not to be punished is a greater evil than to be punished." In a very obvious sense this is, of course, not only paradoxical but false, as the instant denial of Polus sufficiently proves: "And I hold that neither I nor any other man believes that." There is no question of Polus's sincerity. But Socrates's point is that Polus, like other insufficiently reflecting men, is ignorant as to what it is to do injustice—that is to say, what it amounts to as a condition of the unjust agent—and that if he knew this, and were really in a position to choose, he would certainly prefer to be injured rather than to injure.

Socrates gives Hippias—and Plato gives the reader—every chance to put himself right. The whole contention, the absurdity of which he is to show, is summarized in a single direct question; "Do you say that deceivers are powerful and prudent and knowing and wise with respect to the matters in which they are deceitful?" And this question is again subjected to the process of definition: "In a word, deceivers are wise and able to deceive. . . . And a man unable to deceive and ignorant would not be a deceiver. . . . And able [powerful] is he who does what he wishes, when he wishes it." The assent of Hippias leaves only one conclusion open, which is that which Socrates proceeds to draw. And Socrates's argument is essentially sound; that is to say, while it is exposed to certain objections, these objections can all be met in a manner sufficiently indicated in the argument as given.

For what ability has the deceiver to distinguish him from the man who tells the truth? Hippias and Socrates consider only such ability as depends on the knowledge of the matter in hand; and this limitation is unquestionably Socratic. But if we urge that the deceiver is distinguished, say, by the ability to disguise his feelings, that may, indeed, characterize him as over against other dishonest men; but it hardly accounts for his dishonesty. And, furthermore, the disguising of one's feelings—for example, of one's personal interest in a matter—may be just as necessary for persuading a man of truth as for leading him into error.

It is more important for our present purpose, however, to emphasize the fact that the conclusion of this part of the dialogue—namely, that the truth-teller and the deceiver are identical—is dependent upon the premises which have been set forth at so great length, and which represent Hippias's view—or, shall we say, the common-sense view?—*not* that of Socrates.

The dialogue has a second part, introduced, like the first, by a brief discussion of Homer. Socrates points out that, to judge from

Homer's account, the naïve and passionate man is at least as likely to resort to untruthfulness as the "man of many devices." In the lay of the *Prayers* (*Iliad IX*), for example, Achilles lies repeatedly and shamelessly, while Odysseus utters no word of anything but perfect truth. To this Hippias objects that whereas Achilles lies from mere simplicity of heart, Odysseus does so with full intent. Whereupon Socrates replies that *on the basis of their previous discussion*⁴ he would have to hold that those who do wrong involuntarily are worse than those who do wrong voluntarily; and the remainder of the dialogue is devoted to the demonstration of this point.

To revert to Raeder, let us note that nothing could be more misleading than, without qualification, to attribute to Socrates the doctrine that voluntary wrong-doing is impossible. Raeder says that this is presupposed in the *Apology*. He alludes, of course, to the passage (25 C-26 A) in which Socrates declares that if he has corrupted his young fellow-citizens he has done so unintentionally, and so ought not to be punished. This is held to rest upon the (tacit) premise that all wrong-doing is similarly unintentional. I have dealt with this matter in another place; but a brief repetition may be pardoned. As a matter of fact, Socrates makes use of no such general premise, but cites a special reason to show that in his own case the wrong-doing (if it has occurred) was not intended. He concedes that if he had intended it he would deserve to be punished, but maintains that as matters stand he deserves nothing worse than to be instructed. Was it a Socratic-Platonic doctrine that punishment should be abolished? Every reader of the *Gorgias* (to go no farther) knows that this is not so; and the *Apology* itself implies no such doctrine. What it does imply is that there is intentional as well as unintentional wrong-doing; and it maintains, in perfect accordance with common sense, that only the former calls for punishment.

It is true that in the *Apology*, as in the *Gorgias* and *Protagoras*, it is assumed (or declared) that no man ever willingly injures himself; more explicitly, that every man at all times chooses for himself what appears to him to be the best of the given alternatives. This appearance, however—especially under the distorting influence of the

⁴ "For I think, Hippias, the very opposite of what you say: that those who injure men and are unjust and lie and deceive and do wrong voluntarily, and not involuntarily, are better than those who do so involuntarily. Sometimes, however, the opposite opinion appeals to me, and I am all at sea about this—clearly on account of my ignorance. And just now a crisis of my will, so to speak, has come round, in which it seems to me that those who do wrong in any matter voluntarily are better than those who do it involuntarily. And I regard my present condition as due to our previous discussion."

passion of the moment—is often false. One great advantage of knowledge over mere opinion is that it is unaffected by passion; and hence if a man knows what is best for himself he will always choose it. It is also Socratic-Platonic doctrine that justice is always for the good of the agent, while injustice always redounds to his hurt. A man who knew this to be true would, of course, never do anything which at the time seemed to him to be unjust. He would commit no intentional injustice. But it is clear that most men are not so wise; and hence they may, and do, commit intentional injustice; and there is no question but that they are inferior to those few men who commit injustice only unintentionally.

It is further true that there is a sense in which all evil-doing, because it depends on ignorance, is involuntary; that is to say, no wrong-doer ever includes in his intention all that the act necessarily and essentially involves. If we say, as Socrates is sometimes represented as putting it,⁵ that a man prefers only what he would with complete foreknowledge prefer, then indeed no man does evil voluntarily.

But if we apply this conception of the matter—as, indeed, we are bound to do—to the *Lesser Hippias*, we get in this way no sufficient explanation of Socrates's argument and contention. The hypothetical phrase at the close, which Raeder cites (ἐπὶ τίς ἐστιν ὄντος) is undoubtedly intended to suggest an interpretation according to which the question under discussion would disappear. But the whole of the previous argument is thereby left intact. The question still remains whether voluntary wrong-doing—in the sense in which that does occur—is better or worse than involuntary. And the contention of Socrates, that the proposition that voluntary wrong-doing is better follows logically from Hippias's assumptions, remains unaffected.

Socrates's argument is, again, essentially sound. If vice is characterized by knowledge and power, then on those terms it is well to be vicious. The educated modern reader will probably be more fertile than Hippias in objections to various points in the argument; but if he bears in mind the general principle he will have no difficulty in answering his own objections.

The *Lesser Hippias* is one of those dialogues which, on the ground of inferiority of style and contents, has had the genuineness of its Platonic authorship seriously questioned—this in spite of critical mention by Aristotle (*Meta.* 1025a 5). If not Plato's it belongs to the first generation of his disciples. But there is no real reason for doubting that it is Plato's own. The doctrine throughout is typically Socratic. The trivial blunders and wanton trifling

⁵ Compare, for example, the passage in the *Gorgias* (474 B), cited above.

with logic, which the critics have found in it, disappear when the distorting preconceptions are removed. The style is well worthy of the rather slight subject-matter, and is typically Platonic. It is not easy to prove a proposition such as this last; and that need not be attempted here. One point, however, may be briefly mentioned in conclusion.

Plato was very fond of a certain parallelism between his characters and the theses which they defend. The *Charmides* and the *Laches*, for example, exhibit this feature with great clearness. But in none of the dialogues is the parallelism more striking than in the *Lesser Hippias*. It is not Achilles alone, but Hippias also, that is simple-minded and impulsive, and because of his impulsiveness and lack of reflection contradicts himself. And it is not Odysseus so much as Socrates that is the "man of many devices," who deliberately and voluntarily speaks the truth which he knows, but who also—let Hippias be our witness—"always stirs up confusion in the argument and seems to be acting dishonestly."

THEODORE DE LAGUNA.

BRYN MAWR COLLEGE

REVIEWS AND ABSTRACTS OF LITERATURE

The Foundations of Music. HENRY J. WATT. Cambridge: The University Press. 1919. Pp. xiii + 239.

What Dr. Watt has attempted in this volume, as in his earlier *The Psychology of Sound*, is a realistic examination, in a scientific spirit, of the actual phenomena of musical audition, and an explanation and, to some extent, an interpretation of them, in psychological terms. In the first ten chapters he sets forth his theories that all musical tones are volumes, conterminous at the upper end, and having their pitch points in the middle, and that intervals are felt as volumic proportions. This part seems to a layman in acoustics to present some features with difficulty reconcilable with the accepted results of Helmholtz and others, but is certainly suggestive and plausible from a purely musical standpoint. In the next half dozen chapters the author collates and analyzes the statements of musical theorists regarding "consecutive" intervals, especially fifths and octaves. This part of the discussion is interesting not only for the thoroughness and shrewdness with which he collects and comments upon the divers reasons heretofore offered by theorists to explain these *bêtes noires* of all harmony students, but particularly for the ingenuity of the collation and the unavoidable way in

which it is made to point to his own theory, the true nucleus of his book. This theory, as brought out in the last eight chapters, is, briefly, that the fundamental fact in music is the simultaneous progress of two or more melodies; that the most significant quality of intervals is therefore not their purely physical consonance or dissonance, but their power of giving clear distinction to the tones that constitute them; and that, on this basis, intervals are to be classified as pure consonances or "symphonies," in which this clear distinction of tones is obscured by fusion into a unitary impression ("Music has been created rather in spite of consonance than by its help," page 213) as dissonances or "diaphonies," in which distinction is lost in confusion, and as "paraphonies," as the thirds and sixths are called, which are the intervals best suited to a clear separation of the tones without fusion or conflict.

To a musician not the least interesting features of Dr. Watt's original and fruitful handling of his subject are certain *obiter dicta* that appear from time to time on the wider æsthetics and philosophy of art. Particularly refreshing is his superiority to the rabid subjectivism of so much contemporary æsthetics. "A genius," he says (page 132), "breaks no rule of art. He only fulfils it the more by finding influences which unite with it to produce effects it would be incapable of producing alone. After all no one really believes in this fable of the genius. You always have to be the genius before you can have his power to make rules disappear. You must have his knowledge and experience. In fact, you must know how to do it." He pokes fun at the attempt of the ultra-modernists "to see an evolution of the notion of consonance downwards from the octave, to include first the fifth and fourth, then the thirds and sixths, now the natural seventh and tritone, and to-morrow all the dissonances themselves" (A. E. Hull's book on *Scriabin*). "Impossible!" he cries. "That were no evolution, but a debasement. Evolution . . . means progress, an increase in the complexities or in the differences distinguished, not the swamping of all differences in one class. All differences remain as they were given, but we learn to know them and their functions better, and to use them practically in our art without feeling shocked or lost amongst the more refractory ones." And in another context (page 154) he makes this clearer: "The conformations of sense retain their characters unaltered. Sense is a stuff that the growing mind of man may learn to mould as he can, but ever in obedience to the laws inherent in it. It is as much an objective world that we must learn to know and to use as is the world of nature."

The most far-reaching and inspiring formulation of this whole-

somely objective view of art occurs near the end of the book, in the rather difficult chapter "Æsthetics as a Pure Science." It is a comforting passage to come across in a day when every snub-nosed youngster is seeking "self-expression" in art, and is quite complacently certain that self-expression is the only possible or conceivable aim of art.

"The only beautiful way in which a person can express himself is obviously to express himself in himself. Then he and his expression are one in perfect coincidence, and beautiful. But when a man makes a work of art, he makes an object that expresses itself as independently of him thereafter as his grown son ever could. In the ideal creation the artist's personality would be as completely indiscernible as is the hand of God in nature. The works of such a man would really create themselves; they would spring into being in their fundamental nucleus of purpose or design, and they would clothe themselves merely by the unfolding and complication of that first germ. We may well believe from many indications that the greatest works of art have thus come into being. The greatest artist in his greatest moments seems not to mould and to form his works but merely to yield himself to the impulses of artistic force. He is not so much a maker as a discoverer of beauty, however much he may have to grope and to search before he finds the true beauty. Its truth has no relation to the length or manner of his search. His sole task is by some means or other to find the true beauty and to recognize it then."

DANIEL GREGORY MASON.

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Letters on Logic to a Young Man Without a Master. HENRY BRADFORD SMITH. Philadelphia: The College Book Store. 1920. Pp. 53.

Under this somewhat whimsical title the author has made use of a modern symbolism and technique to present systematically the Aristotelian logic. After describing the forms of propositional relationship with which logic deals, the task of logic is outlined as the definition of these relationships, this definition consisting of a construction of all the true and false propositions into which these relationships enter exclusively.

This task is accomplished by a rigorous treatment of the forms of immediate inference, syllogism, and sorites. An appendix contains Professor Singer's brief syllabus which is the basis of the exposition offered in the text, and a second appendix offers an interpretation of the Aristotelian forms which validates the relation of subalternation, now generally denied.

The book is a good example of clear and careful exposition, explicit throughout and supplemented by interpretations and geometrical analogies which render the text understandable even to a student innocent of any acquaintance with logic.

EDWIN GUTHRIE.

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JOURNALS AND NEW BOOKS

RIVISTA DI FILOSOFIA NEO-SCOLASTICA. December, 1919. *La partizione storica della filosofia greca sostenuta dallo Zeller* (pp. 553-564): GIULIO DA RE. — Zeller's well-known division of Greek philosophy into three periods: the first beginning with Thales; the second, with Socrates; *etc.*, must be abandoned. It is not Socrates, but the Sophists who brought philosophy down to the contemplation of man's inner self. *Alcuni giudizi su Cicerone* (pp. 565-580): E. CIAFARDINI. — Cicero's philosophy has been unjustly neglected. It is not precisely Roman, but universal; and it is permeated by a sentiment of Christian charity. *Intorno allo spazio ultracosmico* (pp. 581-588): A. MASINI. — Space is not a real entity, and there is no ultra-cosmic space. It is a relation between bodies, and does not depend upon ether or any other cosmic fluid. *La morale dell' "Imitazione di Cristo"* (pp. 589-601): G. SEMPRINI. — The *Imitation of Christ* embodies the impetuosity of the Old Testament and the spirit of gentleness of the New. *Note e discussioni. Analisi d'opere.* Rudolf Steiner, *La filosofia della libertà*: DOMENICO LANNA. Henri Bergson, *L'énergie spirituelle*: F. OLGATI. Gonzague Truc, *La Grâce*: AGOSTINO GEMELLI. A. De Gramont-Lesparre, *L'idée de finalité*: L. R. A. Rava, *Introduzione alla filosofia del diritto*: EUGENIO DI CARLO. Frédéric Queyrat, *L'émulation et son rôle dans l'éducation*: F. OLGATI. Jos. Froebes, *Lehrbuch der experimentellen Psychologie*: A. GEMELLI. Gino Dallari, *Guerra e giustizia*: E. DI CARLO. Franz Ehrle, *Die Ehrentitel der scholastischen Lehre des Mittelalters*: A. GEMELLI. Epicuro, *Opere, frammenti, testimonianze sulla sua vita*: A. G. Léon Robin, *Etude sur la signification et la place de la physique dans la philosophie de Platon*: A. D'A. G. Castellano, *Introduzione allo studio delle opere di Benedetto Croce*: L. BIANCHI. *Notiziario*.

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NOTES AND NEWS

A MEETING of the Aristotelian Society was held on July 5th, Professor Wildon Carr in the chair. Dr. W. F. Geikie-Cobb read a paper on "Mysticism True and False," in which he stigmatized the application of the term *mystic* to current psychic phenomena as unwarranted. True mysticism was an immediate apprehension of the One as the Good rather than the True; it possessed a positive, personal, unquestioning quality which is a necessary feature of all moral valuation; and belonged to the world of the "excessive," and therefore was *per se* beyond logic. All attempts to communicate the mystic experience were limited to the use of symbols, and were, therefore, by their very nature doomed to partial failure. Those symbols, however, were not selected arbitrarily by the conscious mind, but were drawn from the storehouse of the unconscious. Mysticism differs from "Extroversion" in that its supreme interest is in the One who is at once another and the ground of the mystic's being. The truth of mysticism is implied in the truth of the self as transcendental, a truth without which the empirical self loses most of its value. But mysticism is not adequately defined as a form of feeling, and what has led to its being so defined is the fact that not thought but love is the distinguishing function of all true mystic experience. If an air of unreality surrounds the utterances of mystics, it is only for those who are strangers to love. He who loves eternal beauty holds its transitory appearances as of lesser worth. Dante, for example, at the height of his vision saw love enthroned, and declared that it was love which moved the sun and the other stars. Before this supreme experience of love, it would seem that all discursive thought was foredoomed to silence as a worshipper in the outer court of reality.

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THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE NEED FOR A PLURALISTIC EMPHASIS IN ETHICS

THE general tendency in American philosophy during the last two decades has been towards pluralism. We have heard much of the pluralistic universe and the impossibility of finding any one metaphysical formula which will fit all reality. We have heard nearly as much of the pluralistic interpretation of history and the impossibility of conceiving the drama of human existence as the Hegelian development of one principle. Even idealistic theory as expounded by some of its American defenders has insisted upon the irreducible character of the independent selves which go to make up our varied world. When some new idea, such as the economic interpretation of history or the neutral entities of neo-realism, looms up as a sort of new dynasty upon the monistic throne, its critics have not failed to attack its extravagant claims; and it has been forced to take its place along with other co-ordinate principles, or to admit of an already latent pluralism out of which the welter of being could gradually develop. But ethical theory has not been so much affected with this pluralistic emphasis as might have been expected. Just as the neo-realists, in assailing the heights of idealistic metaphysics, have sometimes retained an idealistic ethics, so pluralists, in rejecting all efforts to force the universe within the bounds of a monism, have remained too content with traditional respect for monistic ethical theory. It seems time, therefore, to consider quite freshly the nature of the moral life as regards its alleged simplicity of principle.

I do not desire in this paper to discuss at all the instrumental goods, the manifold means which, from time to time, men may select as tools to advance towards a cherished goal. I shall be concerned with a consideration only of the intrinsic goods or ends of conduct, and of the consequent nature of right conduct.¹ In both

¹ It may be worth while to call attention to the manner in which I employ the terms "good" and "right." Often the word "good" is freely used by writers on ethical theory to apply alike to objects sought, and to the actions and

these questions, I find myself driven to recognize an ultimate and irresolvable pluralism—a basic pluralism of the goods which men may properly seek to achieve and from among which they must choose, and a resulting pluralism of obligation or duty, such that it is impossible to maintain, at least in some cases, that one and only one, among several possible choices, is alone morally right. That is, I shall contend, first, for a recognition of the plurality of ends in morals, and secondly, for a recognition of the plurality of plans or programmes of action by which men may justifiably seek to order their lives and guide their conduct. There seems to me to be neither one unified *summum bonum*, nor one single course of right conduct.

I

To the naïve mind, not yet befuddled by the intricacies of academic controversies over ethical theory, the moral life would surely not seem one simple path outside of which all else was bad, nor would the distinction between good and bad, or between right and wrong, seem sharp and exact. The moral life seems to be confronted with alternative possibilities of development towards different and sometimes inconsistent goods; it is full of dilemmas, ambiguities, loose ends, irresolvable choices. The world is full of a multitude of good things, physical and ideal, some essential to man and others decidedly luxuries, some readily available and others exceedingly difficult to obtain, some fairly permanent possessions and others as fleeting as the sunset colors in a fading light. The same variety of bad things is also to be found. The goods of life are so numerous and diverse in character that a tight and neat classification of them is out of the question. But without attempting any such tight classification, I venture to make a partial enumeration, in order to make concrete the subject-matter of my inquiry. There are the goods of the physical sort, such as health, bodily comfort, sensuous pleasure. There are the goods of the mental sort, such as knowledge, technical skill, scientific insight, understanding of the world about us. There are the goods of artistic appreciation, such as beauty in line and form, in expression and idea, in rhythm and hard-dispositions of men. But only confusion results from this extended use of the word. We have enough words in English to go around without employing one word in more than one meaning. So I shall follow the precedent of a few writers, and shall use "good" (and "bad") to refer to the objects which men may seek, and "right" (and "wrong") to refer to actions or conduct directed respectively towards "good" or "bad" objects. It will become clear as this paper develops, that I regard "good" and "bad" as fundamental terms, by which the other terms must be defined, and not *vice versa*.

mony, in the unchanging relationships of the eternal essences which bring to some men the calm and serenity which they are unable to find in the world of affairs. There are the goods of human character, which, though probably once considered as merely instrumental goods, have certainly come to have for us a quality of intrinsic goodness also, such as loyalty to conviction, the simple trust of a little child, courtesy, friendship, honesty, sympathy with one's fellows. There are the goods of social life, such as peace, local and national sentiment, international cooperation for common ends. There are all these good things, and more; and the very attempt to enumerate them is bound to be chiefly impressive because of its omissions. The abundance of goods, material and spiritual, can not be compressed into a single phrase, but is rather an ever-delightful revelation of unexpected variety.

The pluralism of the goods of life is of two sorts. In the first place, there is no one sanction on account of which these many good things are to be denoted as good. Even when we disregard the fact that they, as causes of future events, have an instrumental character and observe them merely as intrinsic goods, we could mention no single sanction which would explain all the facts. For example, health is a good, not because it is "desired," but because it is the natural end of organic development; yet the beauty of the relationships of the unchanging essences in their eternal harmony is good, not because contemplation of such beauty is a natural end of man's intellectual development, but because some few persons find therein a joy which releases their souls from restless impatience over the existential world. Some of life's goods, the more physical and basic conditions of life, seem to be given as good by the laws of the world in which living beings have come to be; but others, the derived and less primitive goals of educated men and women, seem to be made good by the processes through which they, or related goods, are sought. While all goods are not subjectively determined, some are. While all goods are not determined by the physical conditions of existence in the kind of world we find ourselves in, some are. There is no one sanction which makes all good things good. There is no one criterion which can everywhere be applied. There is no one single formula to fit all the facts. All goods are related in some way to what is humanly desirable; but they are not all related either to a subjective standard such as pleasurable feeling tone or satisfaction of desire, or to an objective standard such as conformity to organic development or harmony with natural environment. Even if one good could be pointed to which, desirable in itself, was also the means of

achieving all the other goods, it would not be the only, even if the best, good; rather it would be one among many, it would be notable, but not solitary.

In the second place, the pluralism of the goods of life becomes evident when we are forced in action to select what for us will be the chosen good of an ambiguous situation. The very enumeration above of many goods must have at once suggested that we can not expect, each of us, to attain all the goods. We are constantly confronted with the necessity of choosing between alternative goods, and can not hope to realize all these alternatives, either at one time or even successively. Often a man can seek to preserve his health only by giving up his work for a social good. Often a man can achieve a great creative task of artistic merit only through neglect or ruthless disregard of others' welfare. Many times men are faced with situations in which the potential goods are woefully incompatible, in which the choice of one good involves the abandonment of another; and sometimes men are faced with still more trying situations in which the potential goods are unknown and can not be brought to light except on the basis of a daring decision, a decision which is frankly a hazard and will not be proved true or false until the outcome has made investigation of other expedients forever impossible. The goods of life are utterly incommensurable. Health, beauty, courtesy, knowledge, friendship, all these can not be measured by a common scale and tabulated in a common calculus. They burst all artificial standards brought to bear upon them, and sweep across all barriers of philosophical system-making.

Suppose, for purposes of illustration, that a nation is waging a defensive war for an unselfish international good. Suppose that behind the lines stood one of the world's lovely cathedrals, such as Chartres. Suppose the enemy were pressing near to the cathedral town, and unless stopped would soon be within range to train their cannon on that monument which, as symbol of so many human hopes and prayers, has a value greater for them than even its artistic charm. Suppose further that the defending general had information as to the military situation, whereby he knew he could do one of two things, either retreat and save his troops for a successful counter-attack, or stand his ground and, though saving the cathedral from harm, lose more men than by the other course of action. And suppose that, so far as he could foresee, the military cause would be served equally by either procedure. Which alternative should be here preferred? What is the *summum bonum* in this situation? What is the greatest good potential in such a position? There

would be no need of considering the two courses of action in their instrumental aspect as serving the great good for which the war was being waged. It would be necessary only to choose between two inconsistent intrinsic goods, the cathedral and the human lives. Is one human life of more value than the great cathedral which has brought more than physical existence to scores of worshipers in the past and would doubtless do so again in the future? Many a man would gladly offer his body to rescue this shrine. Why then may not the general ask his men to stand firm, even command them to do so, believing that, if some among them would not make such a noble choice, they are not worthy of being preserved at so heavy a cost. How many human lives should he set over against the cathedral? Should he be willing to sacrifice ten lives? or a hundred? or a thousand? Where can a balance be struck?

Clearly there are two incommensurable goods in such a situation. No formal principle like that of "self-realization" would help to solve the problem, though it might cover up the extremity of the difficulty. Bentham could suggest a hedonistic calculus only on the supposition that pleasures and pains could be added and subtracted as so many quantities of the same order; but even if he was right in regarding pleasures and pains as commensurable, surely when the full multiplicity of possible goods is taken into account, such a calculus becomes ridiculous. The general has no test for his emergency, and no moralist can give him one. It is futile to ask which end is more deeply "desired," to ask which end is more in accordance with the "nature of things," to attempt to add and subtract the potential goods which each course of action respectively offers. The general may act to achieve either of the two possible sets of goods, but he can not get both sets. Whichever alternative he chooses may become a precedent for future choices of a similar nature; and future generals may act traditionally without realizing that they are but imitating a choice which had never been proved sound. The problem does not arise simply from the impossibility of estimating all the consequences of the two choices to the end of time; for even if some omnipotent general did know all the consequences, he could not add and subtract, like so many figures, the intrinsic goods which those consequences would bring into being. A sunset plus a child's smile gives no sum; a Chartres minus a human life leaves no ascertainable remainder. Whether as human beings faced with such choices, or as theorists formulating rules of action and moral maxims, we must recognize an ultimate pluralism of goods which no pious wishes can synthesize into a simple monism.

II

The basic pluralism of goods leads to a resulting pluralism of right modes of conduct and hence of moral obligation and duty. Where there is no one single good of major value, there can be no one single right course of action. Where there are really significant alternatives of possible goods, there are necessarily significant alternatives of legitimate choices of goods. In those simple situations where there is offered a choice between a good and a bad, there is but one right action and one or more wrong actions which we may follow. But for better or worse, such simplicity is not always before us.

I would not be understood as advocating moral chaos, playful toying with the moral pluralism of life. Those who in the presence of the world's riches flutter from flower to flower soon find themselves balked and deprived of the greatest opportunities which life affords. The fact of ethical pluralism does not forbid, but rather compels, the deliberate unifying of a man's career around a central plan or principle. We discover that the attainment of goods depends upon consecutive endeavor. It is often wise to take only one good when two are consistently available, because the narrowing of our goods in the present opens up a wider range in the future. Scattered efforts defeat the ambitious eclecticism by which they are dictated. Each man must, if he would be efficient in practical morals, form his own hierarchy of goods, select the goods which for him shall be all-important, and thus develop what can truly be called a "career" and not a mere "existence." He must narrow life in order to enrich it. He must know what he wants, and follow it consistently through a succession of changing situations. To try to make life as rich as the plurality of goods would be possible only for a world-soul. Our human achievements will be unnecessarily small, not only if we cut ourselves off from too many goods, but also if we endeavor to encompass too many. For a man with a life's purpose, many difficult situations, though not all, will have their own particular good and will thus not give rise to the hesitation and perplexity which neutralize the possibility of great success. The scholar will give up much in order to carry on his arduous research; the patriot will sacrifice much to make his country safe; the saint will lay aside the joys of this world in exchange for those he believes to be his in the world to come. In times of stress, men realize keenly the desirability of exclusion, at least temporarily, in order to make certain of something. If the moral life were one instantaneous choice, we might well grasp every good within our

reach; but since it is struggle which endures through time, it is necessary to plan, to unify, to consolidate.

But the practical necessity of unifying our lives according to an intelligent plan has led to several ethical superstitions of a monistic sort, against which I would wish to guard. In the first place, the hierarchical arrangements of goods which we make for efficiency are personal choices, rather than a given objective structure of the world about us. The selection of a dominating purpose is instrumental for us, rather than written in the nature of things. All hierarchies are subjective hazards of faith. They are indeed legitimate; but their legitimacy should not blind us to the fact that they rest on a kind of will to believe, often on a veritable will to power. We may have our own settled plans, to which we are ready to hold through thick and thin; but others may have other plans, equally cherished, and contradictory to ours. Usually we can adjust ourselves through compromise and avoid strife; but even where strife comes, it is not always due to an absolute good *versus* an absolute bad, but sometimes to two incompatible programmes of moral endeavor, striving for realization in a world where they are inconsistent and mutually exclusive. We should not live always in the fevered war-psychology which keeps us from recognizing the humanistic basis of the moral code for which we, as individuals or as groups, are striving. When we make our supreme choice, we must, in so far as possible, without endangering all such choices, be willing to let others make theirs. The possibility of a common hierarchy for all humankind grows apace, as social contacts and intercourse increase; for social pressure and the herd instinct drive men to choose codes which conform in large outlines to accepted conventions. But even if such a possibility were actualized, the established hierarchy would have to be more generous than any existing code to the plurality of goods which with diverse fascination attract the fancies of men.

In the second place, there is no reason for supposing that the goods which are excluded from a man's plan of life are no longer good. Sacrifice is none the less sacrifice, and that which is sacrificed is a genuine loss. Sacrifice for sacrifice's sake is highly undesirable, and sacrifice, even when deliberate, should not blind men to the fact that they have given up what in itself is really a good. And the sacrifice should not be continued a moment beyond the point where it is essential to the purpose for which it was adopted. If we determine upon the sacrifice of a dozen lives to save a great cathedral, we are not likely to become thereby in the habit of ignoring the value of human life on all occasions. Yet in the case of many such

deliberate sacrifices, just that disregard for, even perhaps genuine hostility towards, the sacrificed good becomes habitual. What is once excluded for sufficient reasons, becomes thereby *tabu* in the absence of all reasons. Men forget that the exclusion was relative to an end which may have been achieved or been replaced by another. The more goods we can accumulate and the more diverse our interests can be made, without imperiling the whole mass of goods, the better it is for us. We should not be blind to the goods which we do not select.

In the third place, there seems to be no reason for the position that a man's life should be nothing more than the expression of one central purpose. The desirability of unifying our careers does not mean that we must make them a logical and complete unity, excluding all which is irrelevant to the main theme. As in music, so in human life, the main theme is enhanced by the obligatoes, the trills, the overtones, the embroideries and embellishments, which are lovely in themselves and yet do not delay the pealing notes of the central motive. It is always found important to have a major purpose, a voluntary selection of a special correlated set of goods which will be put ahead of all else. Devotion to this central purpose will buoy a man up in moments of necessary sacrifice of other goods. Only consecutive and persistent effort in a chosen direction ensures the continued attainment over a period of time of the desired succession of goods. Yet not everything else needs to be related as contributory to the central purpose. To relate everything is, in so far as theory is concerned, to reduce many independent intrinsic goods to the status of mere instrumental goods, and, in so far as practise is concerned, to lose a vast, even if secondary, field of real enjoyment. A man should not eat his dinner simply for the sake of the added strength which he will thereby gain for the carrying on of his profession. A man should not go to a concert simply for the sake of fresh inspiration to carry on his appointed tasks. Though the added strength and the inspiration are desirable by-products which show that intrinsic goods are also invariably instrumental goods and bear as means upon the future course of our lives, yet the dinner and the concert are goods in themselves and should be appreciated as such. The puritanical demand that our entire lives be synthesized into one plan and that all be excluded except what contributes directly to a central purpose is the cause of much failure to make the most of life, to appreciate the value of the fleeting moment, to avoid the pessimism which comes from the pursuit of a distant goal without the compensation of constant lesser goods all along the way. Lack of unity in our lives, when it is not carried

so far as to interfere with the achievement of a chief plan which can only be carried out during a long term of years, so far from being an evil, is an important good, and increases by just so much the richness of life. The ends we pursue may be organized to assist in their mutual cooperation for their joint achievement. But such organization becomes vicious as soon as it is carried so far as to obscure the independent value of the ends thus organized. Even more such organization becomes vicious as soon as it becomes indifferent to other incidental, but non-essential, goods which might just as well be enjoyed in passing. Thus, for example, the principle of "self-realization," if it means more than that a person should crowd into his life the greatest variety of goods which he can harmonize with each other, is open to serious objection. If it means that we should aim at a particular kind of self and ignore all which is not contributory thereto, it really thwarts the fullest kind of realization of goods. Realization should properly be of goods, not of selves. Otherwise, the catchword might hinder, instead of forwarding, the fuller life and the richer set of goods which a frank recognition of fundamental plurality would ensure.²

Thus, not only is there a pluralism of goods, but a consequent pluralism of right in conduct. To act rightly is to seek the good, and hence right conduct can not be more of a unity in any situation than the goods potential in that situation. And where the alternative goods are incommensurable and irreconcilable, the alternative courses of right action will be so likewise. In such situations we can neither demand that our own choice of goods be regarded by all as absolute and final, nor condemn others who select other goods as depraved and vicious. Thus the moral life will always be likely to give rise to personal and national antagonisms for which there is no solution except the force of arms or an arbitrary decision. Men have, to be sure, been able to arrive to a certain extent, as the result of the accumulated experience of many generations, at common conclusions as to the relative value of the various goods of frequent occurrence; and hence similar codes of morals are held rather widely by integrated human groups. But the two forces which have operated to create such codes are, in the first place, consideration of alternative goods in their instrumental instead of in

² In a recent conversation Professor W. P. Montague used a very felicitous phrase in contrasting "art for art's sake" and "art at any price." As with art, so with all goods, we should not seek them at any price, but we should seek them, each for its own sake. To make art the servant of a moral programme is to ruin its value; to make any intrinsic good a mere aid to another end is to lessen its intrinsic goodness and to impoverish by just so much the richness of human life.

their intrinsic character, and, in the second place, social pressure to secure uniformity. The first force, however, does not so much resolve our difficulty as postpone its solution. For the future goods, or still further future goods, must at last be taken as intrinsic goods, as valuable on their own account above the alternative intrinsic goods which alternative codes of morals would have led to. The future good in the light of which the present goods are most frequently estimated as instrumental is the approval of the social group. And thus the first force resolves itself into the second. The second force, likewise, is no real solution. For social conformity is often a matter of compulsion rather than honest conviction. Where it is due to an honest preference for social approval rather than any or all other goods, a genuine basis for social integration has been found. But many individuals cherish their differences more than their resemblances to established conventions. Though society rests upon the possibility of persuading large groups of men to accept a certain hierarchical systematization of goods for harmonious living, yet society is neither omniscient nor discriminatingly wise. Revolt against accepted formulas, individualism of moral judgment, divergence of ultimate ideals, and a certain field of moral chaos are inevitable as long as the world offers such a host of goods and men value those goods so differently. In spite, therefore, of widely held codes of morals, we must remember the arbitrary nature of such systems. And where opposition of standards as to the right course of conduct appears, we must not condemn others too freely. We must rather seek a basis of compromise, or, if such compromise is impossible, we must seek an arbitrary settlement through major force without the evil of a long and grueling contest during which all parties permanently reduce their capacity to achieve any real excellence. It is not only in international affairs that we need a league which through the preponderance of power will by mere weight of that power determine the solution of non-justiciable questions which lie outside the scope of a court of justice. The prolonged clash of rival codes and standards of right is so grave an evil that at all costs we must seek to limit and prevent its occurrence. But in so doing, we are more likely to meet success if we remember that we are not always judging between a right and a wrong, but often between two irreconcilable rights, two irreconcilable choices of incommensurable goods.

III

In a brief concluding section I desire to contrast the view of ethics expounded above with the traditional view which idealism has made current. Idealistic ethics, like most ethical systems written

from a religious standpoint, has been monistic in tendency. It has been constricting, not only in emphasizing distant above present goods, but in encouraging puritanical sacrifice. Historically the reason for the difference between an idealistic ethics and a frankly naturalistic ethics such as I have dealt with above is probably traceable to a difference in approach. Idealism and religious philosophies in general have been primarily concerned with "duty," and hence have made "duty" the fundamental concept in terms of which "good" has afterwards been defined. Thus Professor Royce started with loyalty as the duty of man, and got no further towards the real moral struggles of life than to insist on "loyalty to loyalty," a formal principle which could be a guide to conduct only when it is filled in empirically with the concrete goods which we find in our every-day world. Religious ethics has often tended to brand as immoral and prompted of the devil all codes different from one absolute code regarded as given for all time; or if alternative standards are recognized, one is made supreme and the other is a lesser code which is grudgingly granted to those unable to lead the noblest type of life. Thus we see in the history of religions such abuses as the inquisition, excommunication, attacks upon trivial pastimes such as card-playing and the theater, iconoclastic destruction of beautiful works of art, double standards, incessant wars, and bitterness of spirit. Idealistic ethics has not prevailed for a long enough time or with wide enough acceptance to trace its practical effects in the same way. But it is not unlikely that it would have the same effect as most other codes built on a religious basis. Theoretically considered, it would admit as good only those particular goods which fitted in with an already determined idea of duty, an idea which, since artificial and *a priori*, is inevitably narrow. Practically considered, it would overlook a part of the potential goods which might otherwise be included, would carry sacrifice to extravagant extremes, and would decree as alone valid a particular standard of right, thus universalizing a legitimate but personal choice, and waging war on alternative codes aiming at alternative goods even when in many cases peaceful concession and compromise would be more satisfactory to both parties to the strife. If idealism should turn out not to be so narrow in its righteousness, the reason would be that it derived the content for its formal principle from a more naturalistic observation of moral facts.

On the other hand, if an approach is made to ethics, as an approach would certainly be made in any other science, through the obvious facts, which in the case of ethics would first of all be the goods which are available to man, then the undue restrictions of the

idealistic ethics are escaped. It is difficult to see what "right" can mean except that conduct which aims at the "good," the "greatest good," or a certain important set of goods. It is difficult to see what "virtue" can mean except those habits, dispositions, or personal attitudes which operate so as normally to produce the selected goods. This scientific approach would enable us to avoid the exclusion of any goods, the puritanical attitude of religious enthusiasm, the intolerant denunciation of other moral codes and other personal choices of alternative goods, and the absolutism which finds in each situation one and only one supreme good. It would enable us to retain our own standards without becoming bigoted, to learn to compromise when compromise alone is the highest morality, to fit in our standards with competing standards, to unify our own lives without trying to force our own codes upon our fellows, to use force where force is necessary, not to make right, but to make a cherished right prevail, and to work towards a higher synthesis whereby destructive force becomes antiquated and might be replaced by some other less evil means of arbitrary decision. It would enable us to recognize the essentially voluntary and personal character of the moral life, the need for constant revision and enlargement, the incidental enrichment of life by new goods, generous consideration of and cooperative enterprise with the followers of non-identical codes, the constant adjustment of moral principles to the facts of which they are but the shadow, and the factual character of the loose ends and puzzling ambiguities which are so obviously present in our everyday moral life.

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ENLARGING THE SCOPE OF MENTAL MEASUREMENT

THE possible scope of the art of mental measurement does not seem to have been comprehended by the professional psychologists with whom this art originated. J. R. Kantor in the May 6th number of this JOURNAL called attention to the disappointing lack of results for theoretical psychology from mental tests, due to lack of emphasis on fundamental principle. The school people have had a great deal of curiosity as to how standardized school tests or psychological mental tests work out, but satisfying curiosity has led to nothing more than "additional work," as Mr. Kantor expresses it. These tests have been offered to employment managers for use in selecting good employees, but in spite of their application to more

than a million men during the war, the actual use of such tests to-day by employment managers is trifling. The trade tests might have been very useful, though they were originated by an employment manager, Mark Jones, rather than by psychologists; but they have failed to come into use because of the practical difficulty of duplicating them. It is recognized that the psychological tests (which as Mr. Kantor says, are performance tests the same as trade tests, except that the subject-matter is familiar to psychologists and not to ordinary employers or teachers) lose some of their value as an accurate practical measuring device under the pressure of a public desirous of finding any way "to beat the game" for its own profit.

The writer as an outsider, viewing the use of mental measuring devices from the point of view of an employer and an educator rather than from that of a professional psychologist, sees an almost universal use for practical mental measuring devices. Not only every teacher ought to be able to measure accurately the pupils that come under his or her care, to make sure that personal prejudice and consequent misjudgment are eliminated, but even every individual pupil, every applicant for employment ought to be able to get his own measurement with scientific accuracy. If the pupils in the public schools could be brought convincingly face to face with their own weaknesses, and at the same time could be shown the practical remedy for those weaknesses, there can be no doubt that their attitude toward their studies would be changed and the efficiency of our educational system would be immensely raised.

To the writer the psychologists seem to have been gravely at fault in trying to measure "general intelligence." There is no such thing as "general intelligence," which is a fiction drawn from averaging several specific phases of intelligence. The Alpha army test is made up of eight specific tests, the results of which are added up and rolled into one total. There has been no clear analysis of what each of these eight tests measures or what it signifies; but even if there had been, the specific information would be immediately merged in an average in which the proportion of one faculty as compared with another would be completely lost sight of. The employer already has little difficulty in distinguishing the few applicants who are mentally very superior in every way, or those who are mentally very inferior: his big problem is to differentiate the vast number of mediums, and this he can do only by checking up specific abilities required for specific jobs. Professor Scott remarked to the writer more than a year ago that a series of specific tests was so superior to psychological general intelligence tests in measuring salesmen that he did not expect to use the latter any

more. This seems to be the general consensus of opinion of employment experts. What is more, these specific tests must be in terms already familiar to the employment manager.

If mental tests are to be used by teachers and pupils, or by applicants for employment, they must be in terms which are familiar to those persons, not in terms that are primarily familiar to psychologists only. The whole underlying principle of measurement is expressing the unknown in terms of the known. So long as the results of psychological tests are expressed only in terms familiar to psychologists, they will be used only by psychologists. Sponsors of the movement for mental measurement seem to have given very little consideration to the character and quality of the minds of such persons as employment managers or teachers to whom they have commended their tests, or else they have shown a tendency to depreciate the use of psychological tests by any one other than a professional psychologist.

The fact is that mental measurement is so delicate a process that it can not successfully be applied except under rigidly uniform conditions, and in what is practically a purely mechanical way, with complete elimination of the element of personal judgment. So long as mental measurements are made by experts of any kind whatever, the element of personal judgment is bound to enter in—for what is the use of an expert except to exercise his judgment? It is practically impossible for an expert to refrain from exercising his judgment, and so long as that is true you can have no adequate uniformity that would fully justify the free comparison of one set of results with another. The size of the undertaking caused the army psychological test to approach a uniformity of procedure, but there can be no claim for uniformity in the small experiments that are currently being made, and so no approach is possible toward a universal mental footrule in the class with our mechanical footrule which is deposited with the Bureau of Standards at Washington. Uniformity of conditions do exist in school classrooms pretty generally when classes are of equal size, and there is considerable uniformity of ability and mental habit in the applicants for various definite classes of employment. There is only lacking a thoroughly standardized procedure, from which the element of personal judgment is completely eliminated and the circumstances of the test are rigidly uniform, insuring a uniform attitude of mind on the part of those who take the tests. Painfully little attention has been paid by psychologists to uniform attitude of mind toward experimental tests that have been made, though this is an enormously important factor.

The writer during the last eight years has been carrying on

experiments with a series of nineteen specific tests intended to measure specific abilities for employment in office work and also the educational training intended to fit applicants for such employment. The result would be a bridge of understanding between employers and schools whose pupils were going into employment, especially to find a way to correct the notorious discrepancy between the public school training in the fundamentals of English and arithmetic and the common employment of office boy or general clerk. The tests and methods of procedure and summary of results of these tests have been published elsewhere,¹ but some of the conclusions may be stated here.

1. These tests were intended to be standardized to the use both of employers and educators, and so were specifically in the terms most familiar to employers and educators alike. Later the practical problem of the uniform correction of many thousands of test papers led to a standardized system of having them checked and rechecked by pupils in school, with the result of discovering the vast benefit to pupils themselves of having tests standardized in terms familiar to them, so they could in effect get their own mental measurement on specific subjects on which baffling vagueness and indefiniteness has prevailed.

Business requires a standard of accuracy in the specific matters with which it deals that is distinctly higher than that which prevails in schoolrooms, and a somewhat wide observation has shown that the general habit of accuracy of teachers is scarcely higher than that of pupils. To get the 75 points of a test accurately handled by one hundred teachers dealing with four thousand pupils (as in one case where three different tests were given to the eighth grade in a Brooklyn school district) required a highly organized system of directions to be read "step" by "step," with emphasis so placed that even the most stupid pupils would seldom miss the point, and points missed by the pupils would be caught by others on the rechecking. In effect the accuracy of the business office under long habit and practise was brought into the classroom under the sole influence of a written procedure. This was possible only when the tests were in terms that pupils and teachers could thoroughly understand. In fact it was apparent that when the character of the tests seemed freakish, as many of the psychological tests do, the pupils refused to enter into them with the energy necessary to give a measure of their best abilities. Moreover, it was highly stimulating to them to be raised suddenly to a level of scientific accuracy to which they were unaccustomed, and the skill with

¹ *Commercial Tests and How to Use Them*, by Sherwin Cody, World Book Co., Yonkers, N. Y., gives two complete series of the tests, with a study in detail.

which this was done by means of the standardized directions, with complete elimination of the suspected personal judgment of the teacher, convinced them of the genuineness of these measurements and brought them face to face with their own abilities in a way that evidently astonished and interested them. Ten of these tests were given to all of the seventh, eighth, and ninth grades in the Gary public schools and also in the Racine public schools, and after a five weeks period of intensive drill a second parallel series of the same tests was given by way of measuring the improvement made under this stimulus, an improvement that was very marked and greater than the difference on the first test between the seventh and the ninth grade. (See *Commercial Tests* for full report.)

2. Psychological general intelligence tests have had their special value in giving some indication of original native ability, which there are many reasons to believe is about the same at fourteen years of age in most cases as at twenty or thirty. But all native abilities are subject to development in practise through exercise and knowledge of ways of application, culminating in a habit that becomes subconscious. It is by no means easy to find material for tests which is not influenced by practise. There are two practical difficulties. Those who give the tests are confronted with the question from those whose rating of ability is low, "What are you going to do about it?" If a man of twenty is confronted by a rating as of a child of ten, his situation is to say the least discouraging, and the teacher or examiner is in an embarrassing position. At the same time if the tests are given again, applicants who have a personal interest in making a good record are sure to practise up on the test performances, and so habit enters in as a disturbing factor.

Educational tests have been centered on subjects on which the development of ability was the object of school effort, and parallel tests have been used to measure progress. But the tests have been designed as general samples of work taken at random, and direct concentrated effort at preparing for them has been deprecated.

The tests prepared by the writer have met this situation in two ways. In arithmetic the chief object is an increased habit of accuracy, and this is the result of a consistent effort in that direction—a moral attitude on the part of the pupil. In spelling, grammar, and punctuation the tests were constructed as an epitome of the whole subject. In spelling a list of 1,200 words was compiled from the extensive investigations that have been conducted, and when all of those words were mastered, any test drawn from them could be passed at the hundred per cent. point. In grammar and punctuation the principles had to be applied in a different situation, but as the commonest principles in practical use are few, a test of fifty

points would cover all or nearly all of them, and each new test would measure the progress toward mastering the use of these principles which educators and employers agree ought all to be fully understood and reduced to subconscious habit. In other words, the tests were placed in the direct road of educational habit development and undertook to measure nothing but the development of a habit of mastery of a given narrow subject to a high degree of customary execution. Here the factor of habit through use is controlled and the double use of the tests for employment purposes and educational measurement stimulates an effort on the part of pupils in school which it has never before seemed possible to attain. The mastery of the fundamentals to a high practical degree of accuracy has been one of the great objects of pedagogy that has not been attained through failure to find a system by which pupils might measure their own habits of accuracy and by which they might be convinced of the value in making the necessary effort. This is a direct outcome of mental measurement in terms which the persons tested could understand because they were familiar to them.²

3. Psychological tests undoubtedly were of great use in classifying the soldiers and officers in the army, where five or six large rough groups according to general intelligence were a helpful classification; they have been of distinct use in the special field where they were first used, namely in classifying subnormals at various early ages, and in the study of criminals and other dependents of the state; they may be used in the form of standardized educational tests in making school surveys for purposes of various statistical studies; but they can have little value to individuals until they can be managed in such a way that there is a correlation between the test record and the practical purpose for which the tests are made that is much closer than 80 per cent. Such a correlation means, as one statistician has put it, "we know we are wrong once out of five times." Employment managers by their present hit-or-miss methods may fail more than once out of five times, but they never would be satisfied with a test that they know would be wrong so often as that. Of course this means that variable factors are admitted which inevitably affect the results. If the conditions were controlled, the variable factors could be and ought to be eliminated one at a time, and the tests specialized in such a way that each special test could be depended on to correlate very closely to the 100 per cent. point, though there is a variable human factor which in the most highly

² This system has been embodied in detail in the textbook *Standard Test English*, Association Press, New York, and has been adopted by the United Y. M. C. A. Schools.

specialized business has not been reduced below one per cent.³ This systematic control of variable factors and specializing of tests so that variable correlation reduced to one to three per cent. is entirely possible, and it is imperative if the full possibilities of this instrument are to be realized.

"General intelligence" is doubtless a result of the passion of a democracy for averaging everything. The teacher is satisfied if the average of her class is good, even though many individuals in the class fail completely. When we can get a system of individual mental measurement within three or four per cent. of trustworthy, we begin to have a basis for individual records of ability and improvement, and our school system may be held responsible for certain minimum results in the case of every pupil entrusted to its care.

As a specific case of averaging or generalizing, the writer has often wished to ask Professor Thorndike how he defends the scientific value of his composition scale. Here we have a series of compositions which may have defects of (1) spelling, (2) grammar, (3) punctuation, (4) choice of words, (5) accuracy in the statement of ideas, (6) constructive presentation of ideas, (7) esthetic manner of expression (probably other factors also), all of which have to be averaged together for each scale unit in the mind of the user of the scale without any indication as to what weight any single factor ought to have, and then this average compared with a similar average for a composition which is to be rated, the subject-matter of which may be entirely different. The simple identification of one such average with another similar average is certainly a step better than the rude guesswork now employed by all sorts of teachers in grading all sorts of compositions on a very rough percentage scale (so rough and rude that by reason of giving different weights to different elements the same composition has actually been graded 40 per cent. and 90 per cent.). Not the least variable element is the judgment of the teacher who does the averaging and comparing. Why should not each of the above mentioned factors, or at least several of them, be measured by themselves, ideas required for an assigned subject counted, and comparison with a scale model limited to the one subject of clearness of expression or perhaps wording or expression in general if too fine division becomes impracticable; and the consensus of opinion of a group of pupils substituted for the single opinion of any one instructor? Such a method seemed to

³ In the accounting department of Marshall Field & Co. it was found that the greatest experts in figures would make about one per cent. of errors, and all the figuring is done three times over so as to dilute that one per cent. to what is practically nothing.

work well in the writer's test on answering letters, or test for practising correspondents.

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“DR. WILDON CARR'S THEORY OF THE RELATION OF
MIND AND BODY”

MR. J. E. TURNER in his criticism¹ of some points in my address to the Aristotelian Society on the “Interaction of Mind and Body”² shows a full appreciation of the main point for which I was contending. The relation of mind and body is a union in which two whole, and completely distinct, ordered systems develop continuously, but in such a way that no modification of either system is partial. There is no point to point correspondence between the parts, or between the details of the changes, in the two systems. The articulation of each system is *sui generis* and the two systems interact, but only as whole with whole.

I do not propose to try to answer Mr. Turner's criticisms because they are quite fair and do not in any way misrepresent me. To answer them therefore I should have simply to develop my argument. I desire only to add a word on the main question.

I do not pretend that in establishing this character of the interaction, namely, that it is between individual wholes, I have given at last a final and satisfactory solution of the problem of the relation of mind and body. I am quite ready to admit that the concept of the ultimate nature of the metaphysical reality—*élan de vie* or whatever other term is preferred—is not thereby brought within our apprehension. What I do claim for my theory is that it does enable us finally to relegate to the museum of psychological curiosities the epiphenomenon theory, the double aspect theory, and every form of psycho-physical parallelism. My theory leaves us interaction as a fact, but the mode of it, as hitherto generally understood, is completely transformed. The concept of physical causation offers no analogy. The mind does not, when its scheme is elaborated, press a button and set the body in motion. The whole mind at every moment of developing experience determines the attitude of the body. How? We do not know, that is, we do not know the force which brings about the conformity of the two systems. The manner or mode we do know. The control of the body by the mind is exercised as a degree of concentration or relaxation in a tension.

¹ This JOURNAL, Vol. XVII., No. 10, May 6, 1920.

² *Proceedings of the Aristotelian Society*, Vol. XVIII.

In case this sounds cryptic let me try and explain. The mind is not, in my view, consciousness or awareness, but organized experience. The body is not a peculiarly complex arrangement of molecules, but an instrument for the carrying into effect of an organized, circumscribed, range of coordinated actions. The interaction of mind and body is not seen therefore by comparing, say, my state when I am at work in my study when my body is apparently quiescent, and my state when I am climbing a mountain when my mind is apparently idle. The nature of the interaction is seen rather in the contrast between the waking state when tension is concentrated and the sleeping or dream state when tension is relaxed.

It is easy to say that this does not carry us far. I admit it. It does, however, point a direction. It shows the utter uselessness of trying to conceive the mind as the product of some material substance, say carbon, or as the function of some particular degree of complexity of a mechanical physical structure, say protoplasm.

It has always seemed to me that it was by a kind of philosophical instinct that the great metaphysicians of the seventeenth century were led to concentrate on the mind-body problem. Not only may we say that the whole mystery of existence lies concealed there, but also it is the point in our experience where we are continually brought face to face with the problem of philosophy in its most intimate form. There is little doubt, we feel, that if this relation could be made clear to our intellectual apprehension, the greater problem of nature and spirit would dissolve.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Justification of the Good: an Essay on Moral Philosophy.

VLADIMIR SOLOVYOV. New York: the Macmillan Company. 1918. Pp. lxiii + 475.

It is hard either to characterize or to criticize this remarkable book. Its concepts belong to the philosophic tradition of western Europe; Kant and Schopenhauer and Hegel figure in its pages; Christian theology underlies its principles; evolutionary science furnishes its facts; and yet, in spite of these familiar traits, the work as a whole makes an impression of uniqueness and novelty and refuses to submit to our ordinary schemes of classification. And this strangeness is not merely a matter of its Russian form, for the translator, with the exception of a few phrases, has done her work well, and the book

reads like an original; it is the thought itself that makes the impression, or perhaps, rather the spirit of the man back of it vitalizing forms of thought themselves not new.

To call this spirit Christian and the thought a Christian philosophy may seem to suggest a too simple explanation of the effect. Christian philosophies we may seem to have had in too great numbers to permit of the ascription of a striking distinctiveness by the use of a title so familiar and so general. Perhaps the addition of the adjectives genuine and sane, in spite of the obvious subjectivism of them, may lend greater definiteness to the characterization. By the former one may distinguish this Russian philosophy from the denaturalized Christianity of Anglo-German Idealism, and by the latter from the robust interpretations of Russian primitiveness and anarchism. For this is not a philosophy adapted and perverted to meet the demands of a nominal Christian tradition, it is a philosophy which is the natural and extremely subtle expression of a profound religious experience. Genuine piety and vigorous faith breathe through every line of the book and nowhere, no matter how different our own experience may be, do we get a suggestion of the keen intellectual juggler or the superficial exponent of social Christianity. It is the philosophy of a man who has lived the experience he interprets and who has not blinked at the difficulties it involves, difficulties not to be solved dialectically, but only by life itself.

But while we are constantly carried back upon individual experience, the individual is not regarded as complete in himself. Tolstoi's negative interpretation of religion finds no sympathy in Solovyof, who insists upon the necessity of the historic process for the development of the individual and the unfolding of the meaning of life. It is in his emphasis on this historic development that the author's debt to Hegel is most clearly evident, but in the analysis itself he maintains an independent position.

The meaning of life is to be found only in the struggle to realize the perfect good, the aim of which is the enjoyment of perfection, or communion with God. That this is the real function of man is evidenced in the three fundamental attitudes which form the primary data of morality. Our relation to the lower world of nature is shown in our sense of shame at the essential processes of reproduction, a sense which admits of no utilitarian explanation and testifies to our distinctness from the merely animal. This sense of sexual shame with its corresponding virtue of continence is for him the root principle of morality and his keen analysis of it forms one of the most interesting parts of the book. Our relations to our fellows is one of likeness, expressing itself in pity or sympathy, indicating an essential unity

with them and necessary respect for them as for ourselves. Our relation to that which is above us is felt as reverence for the actualized Good or God. That there is such a being is not a matter of reasoning but of immediate experience, just as our recognition of our fellows is beyond or above proof. We can not doubt the existence of those whom we pity, nor of him whom we reverence. That there are those who feel no reverence and know no superior is irrelevant to the question: the existence of atheists is justified by the need for those too busy with this world to cultivate the sense for the unseen.

The realistic temper of Solovyof's thought finds expression in the fact that this good, which forms the goal of human endeavor, is not merely a principle of an eternal striving, but an end to be enjoyed by those who strive. This is of the essence of Christianity, it is a promise of victory. Rarely in philosophical literature has there been a more realistic and direct recognition of the insistent demand of the living for life. This is the condemnation of the esthetic attitude toward life, of the individualistic ideal of the superman, beauty and strength cease to be such in the presence of all-conquering death. No solution of the problem of life is really a solution that ends in death. No good that is not a victorious good is really a good. History, from the Christian point of view, is not a meaningless process of the birth and death of individuals, in which the good gleams and is gone, but is a process of universal redemption in which individuals as individuals share, a cumulative process by which death is overcome.

There is implied here a doctrine of universals which is not elaborated, but there is an interesting and unusual working out of the idea of family, racial and human solidarity that corrects the suggestion of asceticism involved in his emphasis on shame. The spiritualization of life takes place under the natural forms of the tribe, the nation and the race: and the tribal process involves the three-fold attitudes of the cult of the ancestors, the marriage of the contemporaries and the education of the children. This ancestor cult in Christianity involves the mutual cherishing of dead and living as all bound up together in the task of realizing the common good. The moral struggle of the living gains significance from this fact that it is an essential means through which the dead may also be brought to completeness of being through the final redemption of the world, and these latter in turn form an effective spiritual environment for the living. The unity of the family shows itself in the present through marriage in which natural desire gives place to spiritual love and the animal process of reproduction becomes a means for the embodiment of the image of God in man. It is because this union of man and woman is not yet perfect that external physical reproduction is

both the result and purpose in order that the children may bring to perfection that which the parents have failed to accomplish. Hence, as family religion constitutes the moral bond with the past and marriage forms the spiritual unity of the present, so education must fit the children for the moral task of the future.

If we ask for the ground upon which this whole system rests we find it in moral experience, in the facts of the moral life and their implications. To quote from the preface to the second edition: "The object of this book is to show the good as truth and righteousness, that is, as the only right and consistent way of life in all things and to the end, for all who decide to follow it. I mean the Good as such; it alone justifies itself and justifies our confidence in it." But, as the author indicates, such a justification of the Good will have significance only for him who has consciously chosen it, to others it will be not only useless but annoying. Although rejecting the subjective idealism of Kant, which he finds to infect also his ethics, his own position as a moralist seems nearer that of the categorical imperative than any other. The primacy of duty, the sharpness of the distinction between the ways of life and death, the inwardness of the moral life, all suggest Kant in spite of the fact that abstract rationalism has given place to frank mysticism with its immediate vision of the perfect Good.

But the question of classification is not very important in the case of a book such as this. Its value is in its genuineness and in its wealth of keenly analyzed experience, an experience in many respects remote from that of Western Christendom. It is stimulating and refreshing to come in contact with an attitude that is robust without being naturalistic, and idealistic without being anemic.

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Experiments in Psychical Science: Levitation, Contact, and the Direct Voice. W. J. CRAWFORD, D.Sc. New York: E. P. Dutton & Co. 1919. Pp. xii + 201.

In this book the author deals in greater detail with "problems connected with the physical phenomena of spiritualism" which he formerly examined in his book, *The Reality of Psychic Phenomena*, published two years earlier. The author recognizes the existence of both conscious and unconscious fraud at séances for physical phenomena, but is confident that they are much overrated: "Sometimes the medium's body, or portions of her body, make spasmodic kinds of movements when heavy raps or impacts are being experienced out in the circle. These are simply reactions. . . . The seeker after fraud immediately puts them down to imposture. My experiments,

conducted over a long period of time and more thoroughly than any ever carried out hitherto, have proved to me beyond all question that the medium's body is either directly or indirectly the focus of all the mechanical actions which result in the phenomena" (141-42). Physical phenomena are produced, in the dark or in red light, by means of a "psychic structure," on the principle of a cantilever, extending from the medium's body near her ankles (129), which is operated by undetermined intelligences by means of "psychic energy" drawn from the sitters (133).

The "psychic structure" is invisible and impalpable (82), produces a "disagreeable, cold, spore-like sensation" in the hand that passes through it (119), is the same temperature as the room (98), is not a conductor of low-tension electricity (90) but discharges an electroscope (135), is acted upon by gravity (82), may be photographed (153), and offers resistance to pulls, pushes and torques (137). It can penetrate clothing and closely woven screens not more than an inch or two from the medium's body (102), but not a wire screen of one-inch mesh about 18 inches distant (99); its free end can operate through larger meshes (102), but not within enclosed spaces or under an inverted table (51), or in the region behind the medium's back (94). It is acutely sensitive to all light not of long wave-length (152), and exists in a delicate and unstable form (150). It grasps objects in the manner of a suction-disc (51, 69) and may dispose itself into as many as three cooperating psychic rods in a single levitation (68). Its form is that of a simple cantilever when objects up to 30 pounds are levitated (36) as was shown by a corresponding increase in the weight of the medium and by the capsizing motion of the medium if the weight of the table is increased (32); but is modified into a strut or column when heavier objects are levitated (36), as was shown by weight-recording apparatus under the table (38) and the excess of the weight lifted over the increase of the medium's weight (38, 43). An imprint of the lower part of the columnar structure was obtained in modeler's clay during a levitation lasting about twelve seconds; it was irregular and measured $3 \times 2\frac{1}{2}$ inches (4). The maximum amount of this psychical material drawn from the medium's body and available for use in causing physical phenomena was $54\frac{1}{2}$ pounds, almost half of the medium's weight (82). Its structure is of two kinds: (a) its body, consisting of *x*-matter which can transmit stresses through itself and to the free end of the structure, but not to ordinary matter; (b) its free end, consisting of *y*-matter (materialized matter), into which some of the *x*-matter has been converted, capable of transmitting stresses to ordinary matter (125).

The psychic energy by which the psychic structures are operated is regarded as "most likely a form of energy connected with very small particles of matter . . . probably . . . connected with the nervous system of the medium" (129). There seems to be "a kind of psychic positive pressure in the legs and feet and a kind of psychic negative pressure in the arms and hands, so that there is a tendency for the particles to flow back in her body via the hands and arms if a conducting material or path is supplied to them. To use an electrical analogy, there is a higher psychic voltage in the neighborhood of her ankles than of her hands" (130). After the séance the medium has lost no weight (130) and is not fatigued (139). The psychic energy seems to come principally from the sitters, since the matter associated with it is a permanent loss—the sitters weighing less at the conclusion of the séance (132). It can be drained off, however, from the levitated table to the medium through contact with her hand, an iron or glass rod (127), which causes the table to drop, but not with paper or wood (129). It is not electricity. At an hour and a half after the opening of the séance the psychic energy is at a maximum, and great forces are exerted (7); a table supporting a heavy man is moved about the floor with great ease; the table being levitated, a strong man pushing from the top can not depress it to the floor; the table being anchored to the floor, it can not be lifted (7); raps are delivered in sledge-hammer blows, shaking floor and chairs (4).

"The medium is never in trance, but from late observations I would hesitate to say that her state of consciousness is quite normal" (127).

Supplementary séances in the author's laboratory, with another private medium, Mr. X, for testing contact phenomena, and with a professional medium, Mrs. Z, for testing the "direct voice," indicate: (1) That contact (medium's hands on table) facilitates, but does not alter the character of, the phenomena. By direct manipulation of the table the author, depending upon his muscular sense, located a rigid psychic mechanism in the region of the medium's ankles that resisted turning or moving in a horizontal plane. (2) That the origin of the voices recorded on a dictaphone was so close to the horn (seven feet distant from the medium) as to cause "blasting" in the record, while the speaking trumpets were but 34 inches long, and each hand of the medium was held by a sitter.

The principal medium is the youngest daughter (eighteen years of age) in a mediumistic family; intelligent, practical, strong-minded; not excitable but placid and cheerful. Her power was discovered in her fifteenth year. The author is about thirty-nine years

of age and is a lecturer in mechanical engineering in the Municipal Technical Institute, and in Queen's University, Belfast, England. The experiments were carried out in a systematic way in séances held in the medium's home. Scientific apparatus was freely used, and the desires of the medium's "controls," whom the author regards as discarnate persons, were faithfully followed. The author, however, frankly prefers the discovery of the laws of physical phenomena to the attempt to prove the identity of séance personalities. In the reviewer's opinion this is an important field. Since the phenomena are apparently reproducible, and since the "new matter" and the "new energy" seem to be dependent upon the medium's body, and especially her nervous system, the next step should be verification by physiologists and experimental psychologists whom the author should associate with him in his further researches. And, certainly, protection in the services of a master of legerdemain should also be secured.

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Echo Personalities. FRANK WATTS. London: George Unwin and Allen; New York: The Macmillan Company. 1918. Pp. 111.

In the five chapters making up this little book the author essays to estimate the value, for educational practise, of recent developments in the field of abnormal psychology. "Echo personalities" are those forms of human behavior which are but the echoes of authentic personality—the crowd, the psychopathic subject, the mental defective.

In a running account the author applies to the work of the teacher, and others dealing with children, various suggestions derived from his reading of Tarde, LeBon, Baldwin, Trotter, McDougall, Janet, Freud, Jung, Binet, Seguin, Itard, Montessori and others. The chapters were written in the field, during free moments of military service, which perhaps accounts for the general survey character of the book.

It would be a wholesome task if each teacher should occasionally undertake in this manner to review, summarize and apply the results of the general reading of non-pedagogical literature. Such an enterprise fixes and organizes one's knowledge of the books read, and prepares the way for original thinking. The products would not often be striking, and the conclusions would often be commonplace or even platitudinous. But occasional reviews, written with such understanding as that shown by the author of *Echo Personalities*, would themselves represent much more than echoes. They

would serve, as does the present book, to introduce the young and the unreflective to valuable fields of reading and thought, and to provide the general reader with a summary of the detailed technical material.

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JOURNALS AND NEW BOOKS

REVUE DE MÉTAPHYSIQUE ET DE MORALE. Janvier-Mars, 1920. Owing to the increased cost of publication the *Revue* is now appearing once every three months instead of two. *Les facteurs Kantiens de la philosophie allemande, de la fin du XVIII^e siècle et du commencement du XIX^e. (Suite et à suivre)* (pp. 1-25): V. DELBOS.—Continuing his exposition of how the German idealists in forming their systems were in large part developing suggestions contained in Kant's critical philosophy, M. Delbos here treats the following points: (1) Kant's relation to the view that a philosophy must be a unified system ordering the totality of knowledge under a single, first principle; (2) Kant's relation to the various descriptions of this first principle given by Reinhold, Maimon, Beck, and Fichte. The latter's description of the first principle as absolute ego is especially considered, and found to be consistent with Kantianism. *Le point de vue neuro-biologique dans l'œuvre de M. Bergson et les données actuelles de la science* (pp. 27-70): R. MOURGUE.—In describing the relation between mind and body as one of "solidarity" rather than "parallelism," and especially in viewing the brain as primarily an apparatus for regulating and conducting movements, Bergson initiated a criticism of psycho-physical parallelism, and of the traditional psychological atomism with its doctrine of "centers of association." Bergson's criticism is made from a biologic point of view, and is supported by the most recent researches in neuro-psychiatry. A great part of the author's evidence for this conclusion is derived from studies of aphasia, and is directed against attempts to assign psychic elements to localized seats in the brain. The article contains a wealth of references to psychiatric literature, and there is an extensive bibliography attached. *Durkheim. (Suite et à suivre)* (pp. 71-112): G. DAVY.—II. His work. Durkheim's conviction that morals must be based on a scientific study of human society led him to investigate the nature of a true science of sociology. Its method must be the same as in any other science, as objective and as free from all "metaphysical

realism," but the subject-matter is peculiar to the science. There exist "social or collective phenomena" which are the proper subject-matter of sociology, and which can not be reduced to the simpler data of biology and psychology. These phenomena are not only material, but also spiritual, and as Durkheim gradually laid more and more stress on ideal factors, he came to regard a "collective consciousness" not only as real, but as the most important reality which the sociologist has to study. *Etudes Critiques. Les "Principes psychologiques" de J. Ward* (pp. 113-126): G. MARCEL. — Mr. Ward's psychological position is here outlined, with special emphasis upon his theory of "subjective centrality and unity." "The spirit or ego considered as a complex of presentations must be distinguished from the spirit or ego considered as the subject to which this complex is presented." M. Marcel thinks that some middle ground may possibly be found between the extreme "presentationism" criticized by Mr. Ward and the latter's own theory of subjective unity. *Supplément* (pp. 1-8) *Nécrologie*, Georges Lechaies. Paul Lacombe. *Livres Nouveaux*. Henri Bergson, *L'Energie spirituelle*. Victor Delbos, *La philosophie française*. Pierre Janet, *Les médications psychologiques*. George Sorel, *Matériaux d'une théorie du prolétariat*. O. P. Lumbreras, *De dubio methodico Cartesii*. Mary Whiton Calkins, *The good man and the good*. Wilhelm Wundt, *Die nationen und ihre philosophie*. *Périodiques: Scientia*, 1919.

Bergson, Henri. *Mind Energy*. Translated by Wildon Carr. New York: Henry Holt & Co. 1920. Pp. x + 262.

Merz, John Theodore. *A Fragment on the Human Mind*. New York: Charles Scribner's Sons. 1920. Pp. xiv + 309. \$4.50.

NOTES AND NEWS

THE committee appointed by the Belgian government to award the decennial philosophical prize for the period 1908-1917 is composed of M. De Greef, of the Royal Academy of Belgium; Professor Bidez, of the University of Ghent; Professor De Coster, of the University of Brussels; Professor Jansen, of the University of Liège; Professor Noël, of the University of Louvain.

MRS. PEARL HUNTER WEBER, of Aurora College, has been appointed head of the departments of Philosophy and Education in the Illinois Woman's College at Jacksonville, Ill.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

PRAGMATISM AS INTERACTIONISM

I

THE doctrine of pragmatism or instrumentalism—which, however diverse its elements and its manifestations, has at least the unity of a continuous process of development—began as a theory about what thinking is; it has of late come to be chiefly a theory about what thinking does. Its point of departure lay in the provinces of logic and epistemology. James's earliest formulation of the doctrine was an attempt to define the conditions under which ideas and judgments possess meaning, and to formulate the generic nature of all "meanings." This soon developed into a theory concerning the nature of knowing, and the meaning, and consequently the criterion, of truth; and from this followed certain conclusions as to the scope of possible knowledge and the limits of genuinely significant philosophical discussion. These epistemological preoccupations, though not absent, seem distinctly subordinate in the latest collective manifesto of our American pragmatists, the volume of essays entitled *Creative Intelligence*. The outstanding thesis of that volume appears to be the one indicated in its title, that man's "intelligence" is genuinely efficacious and "creative." The several contributors (it is intimated in the prefatory note), while by no means professing any complete identity of doctrine, "agree in the idea of the genuineness of the future, and of intelligence as the organ for determining the quality of the future, so far as it can come within human control." There is, of course, in this nothing which conflicts with the earlier formulations of pragmatism to which I have referred; the thesis of the creative efficacy of reflective thought develops naturally from those earlier formulas, and from some of them, perhaps, necessarily. Nevertheless, a feature of the doctrine which earlier was often left implicit has now apparently come to be looked upon by pragmatists as their most essential and distinctive contention.

But with this shift of emphasis it becomes plain that the chief

significance of pragmatism lies in its bearings, not upon logic or epistemology, but upon metaphysics, and, more specifically, upon the philosophy of nature. Its principal quarrel—little as some pragmatists seem able to distinguish their enemies from their friends—should be with mechanistic “naturalism,” with the dogma that the laws of the more complex and later-evolved processes of nature can be “reduced” to, and may eventually be deduced from the laws of the simpler processes—that “consciousness” is nothing but movements of the muscles, that muscular movements are wholly explicable by the principles of physiology, that the categories and explanatory principles of physiology can be “fetched back” to those of chemistry, these be resolved into the dynamics of the molecule, and the entire spectacle of nature, despite its seeming variety, finally be shown to be nothing but the manifestation of a few simple laws of the relative motion of particles or of mass-points. The opposition of pragmatism to this type of doctrine is evident from its denial of an essential part of the mechanistic creed—its denial, namely, of parallelism and all other forms of epiphenomenalism. Against whom but the epiphenomenalist does pragmatism need (in Professor Dewey’s words) to “enforce the pivotal position of intelligence in the world and thereby in control of human fortunes (so far as they are manageable)”¹? Is it not the familiar mechanistic doctrine that

The first morning of creation wrote
What the last dawn of reckoning shall read,

that is described by Professor Dewey in the following terms: “Thinking was treated as lacking in constructive power; even its organizing capacity was but simulated, being in truth nothing but arbitrary pigeon-holing. Genuine projection of the novel, deliberate variation and invention, are idle fictions in such a version of experience. If there ever was creation, it all took place at a remote period.”¹ But to this doctrine Professor Dewey tells us that the antagonism of his own philosophy is absolute. Similar protest against the “block-world” of naturalism is made by nearly all the writers in *Creative Intelligence*; the following passage, by Professor G. H. Mead, is typical: “The individual in his experience is continually creating a world which becomes real through his discovery. In so far as new conduct arises under the conditions made possible by his experience and his hypotheses the world . . . has been modified and enlarged.”²

In an earlier volume Professor Dewey even more plainly indi-

¹ *Creative Intelligence* (hereafter cited as *C. I.*), p. 23.

² *C. I.*, p. 225.

cated the import of his own philosophy, by an express repudiation of Mr. Santayana's familiar and striking formulation of epiphenomenalism, first printed in this JOURNAL.³ The belief "which attributes to thought a power, by virtue of its intent, to bring about what it calls for, as an incantation of exorcism might do," seemed to Mr. Santayana merely "a superstition clung to by the unreconciled childishness of man." "The consequences of reflection," he wrote, "are due to its causes, to the competitive impulses in the body, not to the wistful lucubration itself; for this is mere poetry. . . . Consciousness is a lyric cry in the midst of business." On the contrary, writes Mr. Dewey, "if one understands by consciousness the function of effective reflection, then consciousness is a business—even in the midst of writing or singing lyrics."⁴ The essential thesis of the volume of *Essays in Experimental Logic* is "that intelligence is not an otiose affair nor a mere preliminary to a spectator-like apprehension of terms and propositions." In the eyes of a pragmatist, "faith in the creative competency of intelligence was the redeeming feature of the historic idealisms."⁵

In view of such dicta as these, one naturally looks to pragmatist writers for a connected and comprehensive discussion of the problem of interaction and of the older types of doctrine concerning the psychophysical relation. The passages which have been quoted from Professor Dewey and others, and many more like them, fairly bristle with suggestions of questions to which one desiderates answers from the same philosophers. What is this "intelligence" which the pragmatist apparently credits not only with the ability to push molecules about, but also with the power to enrich the universe with new contents? Does it or does it not include any entities or any processes not definable in ordinary physical categories? When matter is moved by "intelligence," is the intelligence itself matter? or a motion of matter? or a form of energy which must find its place in the equations of thermodynamics? or something other than any of these? How is the thesis of its efficacy in the physical world to be adjusted to the generalizations of physical science about the motion of masses and particles? Does that thesis presuppose such views about natural laws and their logical relations as have been set forth by Boutroux in his *Contingence des lois de la nature*, or a doctrine of the "heterogeneity and discontinuity of phenomena" such as is defended by Boex-Borel in his *Le Pluralisme*?

To these questions the representatives of pragmatism offer less

³ Vol. III., 1906, p. 412.

⁴ *Essays in Experimental Logic* (hereafter cited as *E. L.*), p. 18.

⁵ *E. L.*, p. 30.

direct and less thorough and connected answers than could be desired; but we are not left wholly without light upon the matter. The nearest approach, so far as I can recall, to a fairly full treatment of this issue from the pragmatist's point of view, is to be found in Professor Bode's essay in *Creative Intelligence*. Here we get a somewhat extended statement of reasons for rejecting the "doctrine that conscious behavior is nothing more than a complicated form of reflex, which goes on without any interference on the part of mind or intelligence." According to parallelism, in Bode's words "intelligence adds nothing to the situation except itself. The psychic correlate is permitted to 'tag along,' but the explanations of response remain the same in kind as before they reached the level of consciousness. . . . The explanation of behavior, is to be given wholly in terms of neural organization."⁶

Such a view, Professor Bode contends, is inadmissible because it conflicts with clear empirical evidence; "some facts persistently refuse to conform to the type of mechanism, unless they are previously clubbed into submission." What are these facts? Professor Bode enumerates three: "foresight," "the sense of obligation," and the process of reasoning. The two former "must learn to regard themselves as nothing more than an interesting indication of the way in which the neural machinery is operating, before they will fit into the [parallelistic] scheme." Mr. Bode does not develop his argument here as fully as one could wish; he merely points out these two implications of epiphenomenalism and assumes that, once stated, they will immediately be recognized by the reader as absurdities. But the argument based upon the occurrence of reasoning in man is somewhat more explicitly stated; it seems to consist in the observation that, if parallelism (or a purely mechanistic behaviorism) were accepted, the notion of validity, of truth and error, would become meaningless. By the mechanistic theory "the progress of an argument is in no way controlled or directed by the end in view, or by considerations of logical coherence, but by the impact of causation. Ideas lose their power to guide conduct by prevision of the future, and truth and error consequently lose their significance, save perhaps as manifestations of cerebral operations. . . . [In] a description of this kind everything that is distinctive in the facts is left out of account, and we are forced to the conclusion that no conclusion has any logical significance or value."⁷

It is interesting thus to observe a pragmatist vindicating the most important thesis in his doctrine by a method which has most fre-

⁶ *C. I.*, p. 251.

⁷ *C. I.*, p. 257.

quently been exploited in recent philosophy by the partisans of idealism—the method, namely, of testing a metaphysical theorem by inquiring whether it is consistent with the postulate of the possibility of error, and whether it leaves room for a “world of values.” Concerning the cogency of this or the other suggested arguments against epiphenomenalism I shall not, at this point, inquire; it is more to my present purpose to point out that, while thus attacking parallelism, Professor Bode apparently conceives that he can avoid falling into any position properly to be described as interactionism. By the latter theory, he observes, “a certain importance is indeed secured to mental facts”; but “so far as purposive action is concerned we are no better off than we were before.” For “the mental is simply another kind of cause; it has as little option regarding its physical effect as the physical cause has with regard to its mental effect. Non-mechanical behavior is again ruled out, or else a vain attempt is made to secure a place for it through the introduction of an independent psychic agency.”⁸ “The only difference between the two doctrines”—and to Professor Bode this is apparently an unimportant difference—is “the question whether it is necessary or permissible to interpolate mental links into the causal chain.”⁹

I am not certain that I understand either the criticism of the doctrine of interaction which these sentences are meant to convey, or the nature of the *tertium quid*—neither interactionism nor parallelism, as usually understood—which Professor Bode intends to propound. But if I at all follow him, his objections to admitting interaction are two, involving quite distinct considerations. (a) The first objection would seem to be based upon the assumption of a sort of indeterminism. Even the theory of interaction assigns “mental” causes for physical events; and Mr. Bode seems to imply that the recognition of *any* kind of cause “which has no option with regard to its effects” amounts to a denial of the “creative” efficacy of consciousness. Behavior is apparently still too “mechanical” if it is subject to any uniform determination whatever. Here we have the Romantic, the ultra-Bergsonian view, which rejects both mechanism and ordinary interactionism for, ultimately, one and the same reason, *viz.*, that they both seem to exclude “invention,” pure innovation, true freedom. (b) But Professor Bode’s other suggested objection to interactionism appears to be brought from quite another quarter of the philosophical horizon. It is that the interactionist attributes efficacy to a “psychic agency,” whereas nothing “psychic” exists, either as an active or an otiose element in reality. This, at

⁸ *C. I.*, p. 253.

⁹ *C. I.*, p. 251.

least, I take to be the point of a passage of Professor Bode's in which he explains the source of the "difficulties" about interaction, and, indeed, of "most of our philosophic ills." That source is "the prejudice that experience or knowing is a process in which the objects concerned do not participate and have no share." This error, it seems, has led philosophers to invent imaginary entities in order to solve spurious problems generated by the error itself. But "a careful inventory of our assets brings to light no such entities as those which have been placed to our credit. *We do not find body and object and consciousness, but only body and object. . . . The process of intelligence is something that goes on, not in our mind, but in things: it is not photographic, but creative.*"¹⁰ From such expressions one gathers that Professor Bode further objects to the theory of interaction because it presupposes psycho-physical dualism—because it implies the reality of two classes of entities profoundly different in their attributes and modes of operation. "Bodies" and "objects" may, he intimates, be said to "interact," but not "bodies" and "minds"; for there are no minds. No facts are to be found in experience which require a "subjectivistic" or "psychic interpretation."¹¹ Even abstract ideas do not "compel the adoption of a peculiarly 'spiritual' or 'psychic' existence in the form of unanalyzable meanings."¹²

Of the two types of objection to interactionism thus suggested by Professor Bode, the former will not be considered in this paper. I omit it partly in the interest of brevity, partly because I am in doubt whether Professor Bode himself seriously means to assert the view which his words at this point seem to imply, and partly because it appears questionable whether other pragmatists share that view. But the second of his anti-interactionist arguments is an application to the question in hand of a thesis frequently recurrent in the writings of Professor Dewey and others of the same school. Most pragmatists apparently share with the neo-realist and the behaviorist a violent aversion to psychophysical dualism. Pragmatism, Professor Dewey writes, "has learned that the true meaning of subjectivism is just *anti-dualism*. Hence philosophy can enter again into the realistic thought and conversation of common-sense and science, where dualisms are just dualities, distinctions having an instrumental and practical, but not ultimate, metaphysical worth; or rather, having metaphysical worth in a practical and experimental sense, not in that of indicating a radical existential cleavage in the

¹⁰ *C. I.*, pp. 254-255; italics mine.

¹¹ *C. I.*, p. 270.

¹² *C. I.*, p. 245.

nature of things."¹³ For pragmatism, therefore, "things are no longer entities in a world set over against another world called 'mind' or 'consciousness,' with some sort of mysterious ontological tie between them." The pragmatist "tends to take sensations, ideas, concepts, etc., in a much more literal and physically realistic fashion than is current."¹⁴

This hostility to dualism is, it is true, directed primarily and most frequently against dualistic epistemology, the doctrine that (as Mr. Dewey's unfriendly summary puts it) "the organ or instrument of knowledge is not a natural object, but some ready-made state of mind or consciousness, something purely 'subjective,' a peculiar kind of existence which lives and moves and has its being in a realm different from things to be known."¹⁵ "To say the least," observes Professor Dewey elsewhere, this conception "can be accepted by one who accepts the doctrine of biological continuity only after every other way of dealing with the facts has been exhausted."¹⁶ But it is evident that when the pragmatist denies the reality of any "psychic," "subjective" or "mental" entities as factors in cognition, he also, both by implication and intent, repudiates the dualistic presuppositions of the theory of psychophysical interaction.

Thus, to recapitulate, we find the pragmatist asserting the determination of (some) events—*i.e.*, of certain motions of matter—by a causal factor called "intelligence" or "reflection"; insisting upon the uniqueness of this mode of determination, its irreducibility to purely mechanical or physicochemical or physiological laws; and at the same time denying the existence of any "psychical" (*i.e.*, non-physical) elements in experience or in "behavior," whether as causes or effects or mere concomitants. The peculiar combination of doctrines, then, which constitutes the typical pragmatistic view upon the problem with which the older controversies between parallelism and interactionism were concerned, must apparently be described as an anti-mechanistic materialism.¹⁷ Intelligence—it clearly

¹³ This JOURNAL, Vol. II., p. 326.

¹⁴ *Loc. cit.*

¹⁵ *Influence of Darwin, etc.*, p. 98.

¹⁶ *C. I.*, p. 35.

¹⁷ I do not wish to be understood to assert that pragmatists in general, or even that any of the school, adhere to this position consistently; for they appear to me to adhere to no position consistently. I am, for example, after careful study of Professor Dewey's utterances on the subject, wholly unable to reconcile such passages as have above been cited, as to the "physically realistic" implications of pragmatism and its harmony with the "realistic thought and conversation of common-sense and science," with numerous other passages of his in which pragmatism is identified with "immediate empiricism," *i.e.*, with the

seems to follow from the conjunction of the passages already cited—is an affair of “bodies,” not of “mind” or mental entities of any kind; but bodies, when they behave in the special fashion called “intelligent” or “reflective,” are exhibiting a mode of action not exemplified elsewhere in nature; and by this action they cause the directions and velocities of motion of other masses to be different from what they would be if intelligence were (and where it is) inoperative. As Professor Bode puts it, we must recognize in what (with seeming incongruity) he calls “conscious behavior, a distinctive mode of operation,” “the advent of a new category”; if we do not, “intelligence becomes an anomaly and mystery deepens into contradiction.”¹⁸

Is this combination of doctrines, this attempt to vindicate the creative efficacy of intelligence while repudiating psychophysical dualism, a stable logical compound? Is it consistent either with pragmatistic principles or with the facts of that particular type of “situation” with which pragmatic analysis has been characteristically preoccupied? To these questions the next instalment of this paper will be devoted.

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THE OBSOLESCENCE OF CONSCIOUSNESS

BELIEF in what is vaguely called the subconscious exposes one nowadays to no risk of appearing mystical. The most tough-minded of mechanists can without apology direct his attention to the simmerings and eruptions of those subterranean psychic regions above which flow the quieter streams of waking life. In fact, the taint of supernaturalism having been removed from dreams, hypnotic trances, premonitions, and the sudden impassioned outbursts once doctrine that only that which is immediately experienced can be known, and that things *are* (merely) “what they are experienced as.” Such a doctrine, Professor Dewey declares, “doesn’t have any non-empirical realities,” such as “things-in-themselves,” “atoms,” etc. (*Influence of Darwin*, p. 230); yet such things, surely, play a great part in the “realistic thought and conversation of common-sense and science.” The truth is—as I have, I think, shown in a paper in the forthcoming volume of *Essays in Critical Realism*—that the pragmatism of Professor Dewey and others involves a hopelessly incongruous union of two fundamental principles, “radical empiricism” and the true pragmatic method, of which the former is idealistic and the latter realistic in its implications. In the present paper, I am assuming that pragmatists mean what they say in their realistic passages, and am disregarding utterances which are in flat opposition to those passages.

¹⁸ *Loc. cit.*

called prophetic, the disbeliever in immaterial realities tends, not to belittle these manifestations of subconscious activity, but rather to adduce them for his own uses. For they can be made to serve his cause instead of harming it, being at least no less explicable than conscious phenomena in mechanical terms, and serving as a kind of intermediary between waking consciousness and brute substance—softening the shock, so to speak, of directly imposing upon the mind of waking experience the unbending laws of mere matter and motion. But this recognition by mechanist and vitalist alike of the occurrence of mental operations dissociated from normal cerebration, far from simplifying the field of psychology, has actually rendered it more mysterious. Apart from all questions of the origin and destiny of this astonishing Awareness of ours, there presses upon us with increasing urgency in these latter days of scientific explanations the problem of what *awareness*, could we scrutinize a slice of it at leisure, would turn out to be. How deeply is it rooted in the primeval slime of racial experience, how saturated with vapors exhaled from the twilight regions of brute instinct and unarticulated feeling, how essentially nourished by those inward secret streams that flow forever and only rarely cast up to view their spoil? Of what avail are theories, statistics, psychophysical measurements, psychoanalyses, to rescue us from our ultimate perplexity? In this twentieth century in larger measure than ever before does man contemplate with amazement the persistent shadow—if it be no more than that—that is attendant upon the bundle of tissues that constitutes himself, the little strain of music emitted from his integrated nervous system into the boundless ether and not to be drowned out by all the hum and rumble of neural machinery.

That this consciousness of man's is not only inexplicable but precarious—no better assured of continuance than a candle flame blown by a tempest—is occasionally borne in upon him while under the spell of hypnotic rhythm or on the brink of oblivion in sleep. Indeed, not merely the insecurity of his tenure of waking consciousness but the unimportance of his loss of it, calls a halt now and then upon the self-congratulation of its possessor. How much that is useful and skilful and even inspired seems to occur quite well without any intervention whatsoever of the greatly vaunted waking self! In fact, some performances actually appear to profit from the absence of any controlling oversight: feats performed in sleep, *e.g.*, and all the reflex actions that far surpass in speed and accuracy acts performed to the accompaniment of feeling and volition. There are even the highly efficient performances of animals to take account of, complex acts that could not be improved upon by interference of

any deliberation and will, however purposive. Last of all, the responses of the lowly individuals of the plant world are, some of them, as undeniably efficacious, as well adapted to an end, as rational, so to speak, as many of the responses of the lordly creature man, with his intermittent consciousness periodically drowned by forgetfulness. In the face of so much that is good and fair and useful, though unconscious, in the motions of the whole creation, how may the unique owners of an unsubstantial possession composed of sensations and enjoyments and regrets, shifting memories, unfulfilled hopes, resolves and hates and loves, maintain the unqualified desirability of their treasure? If a flower can fold its petals against a poisonous intruder and open them to what will nourish, if an insect can establish a complex social organization and live with its associates in industry and peace, if a bird can provide for the future preservation of its unborn young, if man himself can manifest in his entirely uncontrolled and automatic actions an economy and efficiency surpassing that of his laborious and blundering conscious efforts—why should he so absurdly cherish that little flicker of awareness on which he bases his claim to supremacy? Such vast accomplishments since the days of the first blind protozoon! And what is to prevent the process of evolution continuing, causing rational and esthetic performances like their predecessors to fall under the control of an automatic nervous system, dropping out forever the accidental by-product called consciousness along with other disused and clumsy expedients?

Well, the cherisher of consciousness can very well reply that the thing he prizes is not necessarily a unique possession of the race of man, but merely the most admirable in the line of development from its progenitors in elephants and seals and nightingales, in daffodils and the inhabitants of the sea. All the brute performances supposedly automatic may be, he will insist, controlled by a consciousness quite as surely as are the most deliberate of deeds—in the case of animals by a consciousness of lesser span than human, in the case of human reflexes merely by another consciousness dissociated from the dominant one of waking life. But of such a state of affairs there can be neither proof nor disproof, any more than of the other possibility according to which consciousness, like caudal appendages, horns and fur, will perish when its brief utility is over, leaving the race to progress unimpeded by an accessory involving pain and conflict and hesitation.

Without pausing to argue for or against these possibilities let us rather try to reach a full understanding of the extent to which human beings, whether wisely or foolishly, dote on this

consciousness of theirs that brings them anguish as well as pleasure, frustration no less than success. Consciousness, let us be quite clear about the fact, is cherished for its own sake, it is wanted in maximum intensity and duration entirely irrespective of any end to be accomplished. So desirable does it appear to its pursuers that they frequently court pain in default of pleasure as preferable to a state of indifference with mental vitality at low ebb. Exceptions do occur, to be sure, even among the lovers of life; the majority of us grave sometimes a slackening of the pace and temporary forgetfulness. But for the most part we can scarcely get our fill of feeling and desire and struggle, of awareness of the world and of ourselves and all the throbbing poignant life that possesses us. In view then of the practically universal desire for consciousness it should be not without interest to inquire whether man in the process of development shows signs of forfeiting some portion of that awareness which he so passionately covets. As he progresses from babyhood to childhood, from childhood to adolescence and thence to full maturity, does he, in exchange for an ever-increasing efficiency and fuller appropriation of the fruits of his own past and that of the race, lose disproportionately in fulness of consciousness?

That at least one phase of his development entails some loss of volitional and conscious control involving a lapse from attention of a certain portion of experience, needs no proof. The abundance of his acquired reflexes is commonly accounted one measure of man's progress; and the acquiring of reflexes is admittedly the acquiring of unconsciousness. Nor is there need to praise the capacity for this acquisition. It is a fact admitting of no controversy that man the automaton is quicker, surer, more efficient, in the accomplishment of set tasks than is man the conscious director of his actions. What is not so usually considered is the possible disadvantage of this talent which human beings possess for stereotyping their activities.

To the child, the blundering performance of absurdly simple motions is sufficient cause for ecstasy. The attention of the very young is, at least for the moment, completely captivated by the task in hand, and concentration sufficient to move the earth upon its axis is bestowed upon the execution of the appropriate movements. None of us after our early days is able to thrill with delight over successfully carrying a spoon to our mouth, or over navigating upon our own feet across the floor. In becoming automatic these performances lose the power of yielding pleasure, since attention, no longer requisite, lapses altogether, and with it the sense of activity and power which was its accompaniment. "The result," the properly informed critic will retort, "being wholly advantageous. When at-

tention is no longer required for the commonplace actions by which we maintain our bare physical existence, then it can turn to better things. Only by virtue of his ability to walk and eat and dress himself mechanically is man enabled to appreciate beauty, to reason profoundly, to create his universe of justice and right. The very condition for his higher development," our critic will continue, waxing enthusiastic, "is his capacity to become an automaton on the lower levels of activity. Man could never have achieved the character of genius if he could not also have achieved that of a machine."

The truth contained in such a line of argument will resist any challenge. It is undoubted that the capacity for attending is limited and that there are more valuable sources of elation than the voluntary control of movements capable of becoming automatic. What we must now discover is what becomes of consciousness when it is released from absorption in humbler activities and passes onward and upward to more seemly things.

Perceptions constitute that class of man's experiences which we must first examine, and concerning these there is a fairly general superstition to be reckoned with. That superstition is to the effect that howsoever machine-like man may grow to be in his eating and walking and dressing of himself, at least in seeing, hearing, smelling, he is possessed of full consciousness. And not only of full consciousness but also of entire freedom from the trammels of his past. Muscles may acquire habits and work blindly in set grooves, but sense organs are windows to an outer world to which each individual has free access. When I open my eyes and my ears surely I experience newly and freshly, draining to the dregs that awareness of myself and my environment which once was likewise mediated by performances now grown automatic. By reason of decreased preoccupation with muscular efforts, consciousness is released, without question, and the conclusion that it thereupon pervades with greatly increased volume the process of cognition may appear to be a reasonable one. Very little reflection is necessary however for the winning of evidence decidedly damaging to that usual and happy conclusion.

The kind of instance which such reflection seizes upon for the confounding of orthodox opinion is that of such perception as mediates, not the actually presented, but the usual and therefore anticipated. Each hour of our everyday life is packed full of this pseudo-perception—perception qualified and supplemented by expectation, supposal, inference; perception abjectly modeled upon previous experience and subject to the latter's limitations. But, it

may be objected, the very definition of perception as distinguished from crude and formless sensation provides for just such supplementations. The acquirement of meanings is precisely conditioned by the mind's power to transcend the present and incorporate in its findings the fruits of the past. And surely such transcendence betokens, not decreased intelligence, not relapse into the state of an automaton, but an enlargement of consciousness.

Substantially, such contentions are of course true. Perception, as distinguished from sensation, does indeed involve elliptical processes of comparison and interpretation—or more exactly, the consequences of such processes in the past—without thereby forfeiting immediacy; meanings, which result from a kind of telescoping of earlier experience, do make up the more significant part of what the mind apprehends; and it is indubitable that the complete apprehension of such meanings involves a mental strenuousness, an energy of attention which an entirely meaningless jolt to the nervous system can seldom if ever elicit. Furthermore, such tendency as is manifested by the process of perception to become stereotyped and thus to acquire the character of a reflex is, it may be argued, fraught with inestimable advantages for behavior. Consider the case of a practised reader who possesses the ability to derive meanings, the symbols of which are not completely perceived—even to supply missing letters or to substitute right ones in the words he reads. Except for the increased difficulty which this short-circuiting involves for the proofreader who seeks to apprehend, not meanings but their symbols, the phenomenon, it must be admitted, is an entirely fortunate one for the race. Indeed, the capacity of the mind to grasp the intended word, partly by outward perception, and partly—the residue of the perceptive process being suppressed—by a mechanical supplementation based upon prior experience, is evidence of a marvelous organization of effective intelligence.

There are other cases in plenty of unqualified benefits to be derived from the swamping of the actually presented by stereotyped contributions of the memory. Our recognition of things as unitary objects instead of confused masses and projections is, indeed, all of it conditioned by such swamping. In other words, immediate and accurate experience of those objects as possessing certain conventional shapes and fixed meanings occurs only by virtue of a highly integrated memory system composed of previous apprehensions of the various generic features dominating at the cost of an awareness of the concretely individual. There are frequent occasions when swift reflex action is a matter of life and death, and many such reflexes depend upon an instantaneous emergence of the generic even

at the cost of an extravagant suppression of details. If the idiosyncrasies of an express train bearing down upon us claimed our attention to the detriment of its generic character and meaning, the world would soon be disencumbered of us and all others possessed of that special variety of receptiveness. Other calamities would overtake such individuals as were incapable of diverting their attention from the details of the desk at which they worked, of the utensils they used, of the chairs they sat upon. In a word, the productiveness and efficiency of a person depend upon his ability to be blind to much that actually impinges upon his retina, deaf to a part at least of what enters his ears, and generally oblivious of whole portions of the solid insistent environment which is an inhibitor in the carrying out of undertakings.

But all this gain in practical efficiency comes at the cost of at least a certain degree of spontaneity and freedom. An assimilated past, effectual in the present, brings benefits, but it also entails a kind of slavery. It prevents that constant accession of new discoveries which would be possible were we capable of directly perceiving what is presented to our senses. That we are incapable of so perceiving is due partially to suggestion—to the decrees of others. The suggestibility of the hypnotized who experiences as he is commanded is only an exaggeration of the suggestibility of the normal human mind which abbreviates, exaggerates, modifies, the qualities of the perceived world in accordance with what other people declare that world to be. It is to our own habits of perception, however, that the major part of our enslavement is due. Previous experience here no less than in the matter of motor responses determines beforehand what our reaction will be. Accordingly, new beauties, unanticipated characters, unforeseen developments of the sensory world are veiled from us—unless, indeed, we possess the rare emancipation of the artist, or deliberately expend a large amount of energy upon an attempted enlargement of our experience. Moreover, not only is increased consciousness made difficult, but such explicit awareness as there is tends to lapse, exactly as in the case of motor reflexes. In other words, perception, in becoming more efficient, *i.e.*, more adapted to the mediation of an individual's generic responses to his environment, becomes more stereotyped: approximates to the character of a reflex. Once again attention, emancipated from so-called lower concerns, is supposed to take flight to yet loftier regions where the functioning of consciousness at its freest and best is both more urgent and more replete with satisfaction to its possessor.

This final refuge is the field of judgment.

It would be no new indictment of the human mind to declare

that in his evaluations man is slavish. The charge has been made by all who, striving to bring about a new order, have met defeat in their clash with conservative and stereotyped opinion. It is made by countless critics who find in that slavishness the chief obstacle to human advancement; but it is made also by others in whose opinion docility is creditable. On behalf of this latter point of view there are, of course, certain arguments. For example, in the interest of solidarity and stability it is fortunate that human beings tend to perpetuate traditional estimates of what is good or evil. The greater the docility in this respect, the more firmly are men linked together into groups and the achievements of the past made secure. Even for men individually a lack of independence of judgment is not without advantage. Most of us are unlikely to be capable of arriving at conclusions as sound as are the best-trying conclusions of past generations. If attainment of truth be a primary object it would seem well, then, that the less intelligent specimens of humanity, at least, should be content to borrow their opinions. Again, if individual efficiency be desired for its own sake there should be no deploring a tendency to economize effort in a direction which does not necessarily make for that efficiency. But all such argument is based on the belief that practical efficiency and social benefits are necessarily to be sought even at the cost of full development of individuality and will-power. That belief may gain considerable currency in a generation like our own worshipful of gregarious productiveness; but it is in conflict with the deeply-rooted desire for freedom and fulness of consciousness which appears to be practically universal.

Our behavior, unhappily, is moulded upon the belief rather than upon the desire. How many individuals ever achieve sufficient independence of mind to gaze coolly upon the institutions and conventions which they have inherited? And yet—not necessarily for reversing the judgment of one's fellow-men, but merely for the attainment of a complete awareness of the values in question—how salutary would be the periodical attempt thus to gaze upon them! Most men believe that their disapproval of drunkenness, lying, pacifism, polygamy, filial insubordination, anarchism, infanticide, free trade, and free immigration is based on sound reasons which they have meditated upon and felt to outweigh all opposing arguments. As a matter of fact, their lack of personal responsibility for their opinions on these subjects is appalling. Such support and guidance as they have failed to derive from older traditions, religious and national, they have quickly sought and found in the stereotyped phrases of their social equals and the unscrupulous propaganda of

the press. Better, almost, would it be to approve cheating and murder with fully considered reasons and hearty independence of conscience, than to revile them with about the same degree of awareness and volition with which we withdraw our hand from hot iron or sneeze when approached with pepper. Not, as has been said, that the transvaluation or revaluation of all values need lead to an entirely original valuation. Certain aberrations from traditional estimates might occur—in some cases bringing about a more enlightened social structure; in some others, perhaps, a regrettable loss of truth for a few individuals. But presumably the greater number would abhor drunkenness and insubordination—either from the intrinsic vileness of these things or from congenital stupidity. In their practical effects, moreover, slavish judgments and free might be indistinguishable. But to the person making the judgment, the difference would be inestimable.

Man, it is clear, must in his encounter with good and evil recover the full strength of his primitive alertness. Otherwise the progressive lapse of consciousness from the level of reflex action to that of immediate perception, and from there to the level of judgment, would prove to be no fortunate circumstance but an ominous forecast of a final evaporation of consciousness altogether. Supposing, however, complete independence in the discrimination of values to be attained, though without any attendant increase of consciousness in the more elementary processes of action and perception, should we then consider man to have achieved the highest development possible, or would certain goods still be lacking? The question broaches one of the most difficult and important problems in all ethical theory—the problem of compromise between goods mediate and immediate. On the one hand there is the ideal subscribed to by those who lay exclusive emphasis upon the life-enhancing value of immediate perceptual experience; on the other, the ideal of those for whom the body is the spirit's ignoble rival, or, at best, its mere container. Except for the sybarite and esthete at the first extreme, and the pedant and Puritan at the second, all men believe in some sort of fusion of the two ideals; it is only the exceptional and not altogether human individual who sincerely advocates either soullessness or anemia. The perplexing matter remains, nevertheless, as to the proportions to be selected for the attainment of a proper balance. If consciousness is more capacious and more ravenous for experience than appears to be assumed by those who plead for its economy, presumably it has none the less certain limits. How then shall man exploit to the full his rich resources for intensified living without sacrificing the interests of the spirit to those of the body and senses, and without fostering

abundance of consciousness in complete disregard of the claims of efficiency? The intrinsic value of each sort of self-realization must be weighed, but also their relative importance in case of conflict must be estimated.

It is not within the plan of this discussion to offer any scheme of solution for this ethical problem in evaluation. But it may in conclusion be suggested that however numerous the difficulties that confront those engaged in that evaluation, at least the conflicts between the "higher" and "lower" interests are less frequent than might be supposed. Latter-day esthetic theory has increased our understanding of the profound emotional significance of the physiological reflexes. We now realize that consciousness of heart-beat and breathing is not only a source of exhilaration for the savage, or for civilized man in his pagan and unthinking moments, but that it contributes powerfully to the highly developed experience of the beautiful. How many potentialities for a primitive kind of delight, quite compatible however with a loftier variety of emotion, may not then reside unused in vital processes from which our attention has been almost wholly weaned! We are supposed to congratulate ourselves upon our absence of attention to all the activities that make for bare maintenance of life. Let us rather lament that we do not drain to the full the realization of the blood coursing through the body, of the strain and pull of muscles, of the flexing of the limbs, and the swaying rhythm of posture—in a word, of every bit of vitalized substance, flesh and sinew and bone, that is the projection into space of the quivering life of an insubstantial awareness. We have seen the argument against all such expenditure of attention—the argument of economy and efficiency. Shabby enough it looks, making consciousness out a scanty thing, barely to be stretched over even a fragment of what is contained within the body. We are supposed to congratulate ourselves, furthermore, upon our habit of letting sense-perception fall back on habit. But there is no necessary conflict between the higher processes and the activity of the senses. A pitifully meager world it is we most of us inhabit, filled with things stereotyped by many repetitions, and shorn of all that makes them unique. And yet that world is actually one of kaleidoscopic variety, full of iridescences in the very mud of the streets, and with everlasting movement of light and shadow every instant making new and unfamiliar the entire creation. Some measure of the artist's absorption in the moment, and the strange enchantment of that absorption, might without prejudice to our intellect be sought by every one of us.

The antithesis of consciousness and efficiency is not so easily dis-

posed of. The world will always divide into two parties—those who recommend intensity of living at any price, and those who regard emotion as subsidiary to practical performance. Perhaps there can be no ultimate agreement between them. The fact remains, however, that with the exception of the few who covet Nirvana we all crave fulness of consciousness. Something of the difference between an attenuated consciousness and one of that complete resonance we crave may be imaged by means of a figure. Bits of brass, each keyed to a different pitch, and uncomplicated by the presence of overtones, will give a melody—cold, pure, complete in itself. Substitute a stringed instrument or a flute for the bits of metal, and the same melody will come, but richer in quality, each note containing within it faint hints of a wider range of harmoniousness. One by one add other instruments until we have a full orchestra: the melody will still emerge from the welter of sound, recognizable, but yet more miraculously enriched. For throughout its silences and woven into its very tissue come the deep reverberations of the accompaniment giving it increased substance and a new significance.

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RELATIVITY, NATURE AND MATTER

IT was inevitable that a theory of such outstanding importance as that of relativity should ultimately extend its influence to philosophy; and the following remarks, suggested by Professor Eddington's theory of matter,¹ are primarily from the purely philosophic standpoint, although from this the scientific aspect can not be dissociated.

1. From that standpoint, then, I think too much is read into the theory itself in regarding it as introducing "new conceptions of space and time" in any strict sense of the phrase "new conceptions." It would be truer to take it as achieving a more accurate *definition* of space and time intervals—as making their meaning more precise and definite, but without transforming them into anything "new." As Campbell has already pointed out long ago, the principle of relativity does "not render it necessary to abandon the hope of defining a time valid for all observers; (it is only) necessary to change somewhat the definition of that time. . . . We have (again) only to change our definition of length."² It is im-

¹ "The Meaning of Matter and the Laws of Nature according to the Theory of Relativity," *Mind*, April, 1920, p. 145.

² *Modern Electrical Theory*, pp. 371, 373. Philosophic readers may be interested in the very clear and concise account of the (old) theory given by Campbell here.

portant to bear this in mind, for otherwise the popular idea that the theory has "revolutionized" our ideas receives undeserved support.

But it is possible to take a deeper view, and trace in Professor Eddington's suggestion the fatal influence of subjective idealism, which philosophy itself is beginning to repudiate anew, but which still represents its last word to many scientists; so much so that Professor Eddington regards the principle that "the mind from the crude substratum constructs the picture of a substantial world" as being ontological, and calls this fundamental confusion "a commonplace" (p. 145). In other words, he mistakes the psychological "crude substratum" in which knowledge begins for the ontological basis on which the known world rests: "the World . . . is the universal substratum of things" (p. 148).³ Such an error need not of course affect pure science itself, except perhaps psychology; unfortunately when science deals with its own ultimates it can not but become philosophic, and then the consequences of such an initial standpoint may become serious. Here, *e. g.*, the result is an immediate and incurable dualism between "external world" on one hand and "laws automatically imposed by mind" on the other;⁴ between "properties" which can be described and a "nature" which can not—which is indeed noumenal and "outside the range of human understanding" (p. 147). Thus we obtain finally a noumenal World as the aggregate of all point-events, which has however a property ("is four-dimensional") which can be logically defined and which may therefore be called phenomenal. Further, between these noumenal point-events there is a relation, the "interval," also noumenal, since "its real nature is beyond our power to conceive" (p. 148). Evidently it is possible to know more about the new scientific noumenal world than about its philosophic predecessors; for an interval, in spite of being noumenal, can be measured practically; but perhaps this merely means that some of its (phenomenal) properties can be practically ascertained.

This World again appears to be spatial, for it has "adjacent portions—regions . . . philosophical space-time has been implicitly introduced in postulating the World to be four-dimensional" (pp. 148-150). But space and time are also (in some sense at least) objects of experience; in another aspect "derived concepts of con-

³ Another striking recent instance is afforded by Mr. Elliot's *Modern Science and Materialism*, Introduction. I mention this as evidence of the philosophy mainly current in scientific circles.

⁴ "Automatically" however conflicts with this dualism, for it implies that the (ontological) "crude substratum" is amenable to laws whose formation again is determined by the principle of the automatism. Thus the "crudeness" at once disappears, and we get a whole of complementary parts—world and mind—subject to a common principle. See below on "embryo mind."

siderable complexity";⁵ but possibly what is meant is that the noumenal World has the phenomenal properties of time and space. It is extremely interesting to find that the theory involves certain absolute elements—"an absolute relation . . . a definite and absolute condition of the World . . . an intrinsic absolute difference";⁶ so that apparently even pure relativity demands some kind of absolute.

2. This brings us to Professor Eddington's theory of matter and of natural laws. This "absolute condition of the World . . . is common to all parts of the world which are empty of matter . . . that condition . . . gives us the perception of emptiness." This raises a serious difficulty; for while our "perception of emptiness," as a *perception*,⁷ is perfectly trustworthy and justified, it is plainly from any scientific standpoint (*i. e.*, the conceptual) wholly illusory; for (a) no one has ever perceived absolute scientific "emptiness"; but (b) even could this be produced and perceived, still no difference would be perceptible between it and space occupied by invisible gas, which *perception* most frequently interprets as empty. Thus the perception of emptiness, which Professor Eddington suggests is due to this "absolute condition of the World," is actually due to a radically different condition—to the World when matter is present in the form of invisible gas; and further, even if these two different conditions could be brought separately to affect the mind (in Professor Eddington's words, make an impression on the senses) still no difference whatever need necessarily be perceptible, and the theoretical suggestion he advances becomes quite untenable.⁸

In this connection again, what is meant by matter being an "object of experience"?—"the corresponding property of the world is perceived by us as a distribution of matter." For light is also "an object of experience";⁹ but (quite clearly) never in the same sense as is matter; the levels of experience are quite different in the two cases, experience of light being mainly if not indeed wholly perceptual, while that of matter again is conceptual (though its properties or attributes are perceived). No theory whatever is

⁵ P. 147. These aspects need not conflict, since the concepts must be derived from experience; but here no distinction whatever seems to be recognized between perceptual and conceptual experience; see also note 8 below.

⁶ Pp. 150, note, 151, 148.

⁷ P. 151. I mean in ordinary uncritical experience, for criticism, as I proceed to show, at once destroys Professor Eddington's contention.

⁸ In view of the phrase "impression that condition would make on our senses" it would appear that Professor Eddington intends not to go beyond perception. Further on, however, we have "a quality which mind recognizes under the name of emptiness." Quite obviously this implies conception, and from the philosophic standpoint hopelessly confuses the issue; but again if taken conceptually equally serious difficulties arise. Cf. note 5 *ante*.

⁹ Pp. 151, 146.

possible unless this distinction is recognized and strictly adhered to, which is certainly not done here.

3. It is difficult again to reconcile the following assertions:

(a) "Einstein's theory asserts as a law of nature . . . the new law of gravitation."

(b) "Einstein's law of gravitation is not a law of nature but the definition of a vacuum."¹⁰

Here there seem to be only two alternatives; either Professor Eddington contradicts himself, or he contradicts Einstein—*i. e.*, he denies that what Einstein regards as being "a law of nature" is really such; but only himself can decide which of these contradictions he intends to maintain.

In any case, the definition of a vacuum is a negative or privative definition; *i. e.*, it depends on the negation or thinking away of a prior entity (or concept), in this case matter; a vacuum is space containing no matter. This suggests that the whole treatment of this particular point rests on a confusion between two kinds of priority—the logical and the epistemological—a subject in itself much too extensive for treatment here except very briefly. *All* experience begins (omitting the "crude substratum") with "objects" and then proceeds to "matter" and "vacuum"; still further to "*G*" and "*g*" (regarded as types), which again is one definition of "vacuum." But when this stage has been attained, the steps leading to it are overlooked—the fact that "matter" "vacuum" and "*G*" all have a common origin is neglected; and the final definition is then regarded as being something fundamental, ultimate, original,¹¹ to which "matter" (even clocks and scales on p. 152) is a later addition or arbitrary restriction.

This wholly illogical procedure is widely prevalent though undetected; it corrupts, *e. g.*, our notions of life, force, cause, person, and is indeed perhaps the principal source of the reigning confusion between scientific and philosophic concepts, in the strict sense of these adjectives.

E. g., consider the equation (here condensed) $G = T$, on p. 150. Now (a) *T* is "compounded from the density etc. of the matter present." It is therefore a mere tautology to say (p. 151), (b) this "equation teaches us what density, etc., is the perceptual equivalent of any particular value of this world-property." We are merely deriving from our equation what was previously inserted in it; and thus a simple reversal of the course of thought is misinterpreted and elevated into a fresh addition to our knowledge, while in truth it is at its best no more than a better defining of one and the same concept.

¹⁰ Pp. 150, 151.

¹¹ I am not of course questioning its scientific value, only the further conclusions which it is sought to derive from it.

Much the same is true of the assertion (p. 151)—it “describes how (an) undefinable quality . . . is appreciated by the human mind.” This appears at first sight to be a solution of that old problem, the relation between mind and noûmenon; but its value completely vanishes¹² when we recall that the “undefinable quality” (or its basis or content—the terminology is rather obscure) has been obtained in the first instance by abstracting from “intuitive notions of space and time.”¹³ Indeed, this initial abstraction is so far lost sight of that “we may attribute to undefinables *whatever nature we may conceive* as best fitted to affect the mind” (p. 152, my italics). Would that philosophy could adopt this short and simple method of dealing with its noûmena!¹⁴

Such abstraction, again, plainly removes the limits or conditions which regulate mathematical procedure. This in itself is nothing new; imaginary quantities are familiar enough. It is therefore almost another tautology to observe that the “results must hold in any imaginary world just as in the actual” (p. 153); in other words, continue to hold when the originally limiting conditions have been deliberately and of set purpose removed. But it is not legitimate to elevate, without further argument, such a set of unlimited conditions into an “external World” and to create a dualism between this and the actual or real world as Professor Eddington does.¹⁵ This again is sheer confusion, only rescued from absurdity by its naïve picturesqueness, between the logical and the ontological status of a concept. “Imagine an embryo mind surveying the external World” (p. 154); an “embryo mind,” however, which “feels inborn necessity,” which “seeks further” than point-events, intervals, and “*g*,” and chooses matter as “suitable material”; which thus possesses to begin with a high capacity for comparison, judgment, selection, and *afterwards* develops “senses and imagination,” thus violating all the canons of mental and every other type of evolution!

Philosophy, of course, can raise no objection to the concept of World or Nature as an unconditioned aggregate of entities of any kind, point-events or other. But it is, I submit, entitled to question

¹² Again, not its scientific value, but its logical or epistemological.

¹³ P. 147. Cf. also (p. 153) “identity due to the way in which the expression has been built up from the simpler elements *g*.” Again “built up” is forgotten and then the resultant “permanence” and “conservation” are regarded as entirely new concepts instead of more exact definitions of old ones; see also next note.

¹⁴ Curiously enough we find on p. 153: “We have thus arrived at a definition of matter in terms of analytical concepts.” But Professor Eddington does not seem to realize the real significance of “arrived at.”

¹⁵ Pp. 153, 154. Cf. p. 155; “all that Nature was required to furnish is a four-dimensional aggregate of point-events.”

ab initio the ascription to this concept of an ultimate ontological status, so that it becomes the criterion, at once external and absolute, of reality, with which the actual or real world is then to be compared and valued, and from which it is regarded as produced by some mysterious operation of the mind. It would be as reasonable to multiply the figure representing the national debt by $\sqrt{-1}$ and then regard the imaginary result as the true basis of the country's financial stability.

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REVIEWS AND ABSTRACTS OF LITERATURE

Spiritual Pluralism and Recent Philosophy. C. A. RICHARDSON.
Cambridge: University Press. 1919. Pp. xxi + 335.

In this volume we find anew, in the setting of recent philosophy, the central theses of Leibnitz's monadology: the unity, substantiality and eternity of the subject (monad); the identity of causality and activity; the interpretation of matter as the "appearance" of monads; the theory of the relation of the mind to the body as the dominance of one monad in a society of other cooperating monads. Spiritual pluralism is, however, not regarded by Mr. Richardson as a demonstrable, but as a most highly probable, doctrine. In his opinion, its probability has been increased, not diminished, by the contributions of such recent philosophers as Bertrand Russell and the new-realists in America; and to prove this is, I take it, the chief aim of his book. Unlike James Ward in *The Realm of Ends*, the author does not seek to present a developed picture of a pluralistic universe, but to solve certain special problems and to remove prominent misunderstandings.

In the first chapter, entitled "Scientific Method in Philosophy and the Foundations of Pluralism," it is argued that Russell's so-called "scientific method" has strengthened spiritualism by showing that matter can be reduced without remainder to constructions of sense data. It might have been added that pragmatism has shown the motive to these constructions. And against all forms of materialism and realism, spiritualism maintains its advantages: (1) of recognizing the subject of experience; (2) of explaining the world, that is, of interpreting it in terms of experience itself, instead of merely describing it in terms of abstract concepts; (3) of working with a single principle. The failure to recognize the subject of experience remains, according to the author, the great vice of the new-realism. For the existence of the self is indubitable: we can not know it "by acquaintance," but from such facts as knowing and

feeling we can infer its existence immediately; and, on the basis of our inner realization of it, we can possess much knowledge of it "by description."

Chapter 2, on "Certain Criticisms of Pluralism," is chiefly a reply to Bosanquet's and Pringle-Pattison's objections.

In Chapter 3, "The Philosophical Problem raised by the Weber-Fechner Law," the author concludes that there is no evidence for the existence of unperceived sense data in the mind and still less for their existence outside the mind. To the argument for the independence of sense data on the ground that "physics can describe the object of experience and make verifiable predictions about it without reference to the subject or to perception," the author replies: "I can observe the positions and movements of the hands of my watch, and make true predictions as to their future positions, without any reference whatever to the mainspring. Yet the latter is the *sine qua non* of all that I have observed and inferred." The author's view is that the object of experience is the appearance of one subject to another subject and is under their double control. Thus, from this point of view, the sense datum stands in two relations: the relation of presentation to the one subject, and the relation of "being the appearance of" to the other subject.

In Chapter 4, "The Notion of a Deterministic System," the author, taking his start from Russell's essay "On the Notion of Cause," is concerned to discover whether the mind can belong to a deterministic system. The answer depends on whether or not quantitative notions are significant of mind. That they are not is the author's conclusion. Determinism applies, therefore, only to sense data, not to the subject to which they are given.

Chapter 5, "The Intensity of Sense Data," reminds one of Bergson's *Les Données Immédiates de la Conscience*. The argument is that differences of intensity are not quantitative but qualitative, and that the possibility of applying quantitative terms here depends simply on the fact that sense data can be arranged as regards intensity in a certain order of qualitative similarity based on the movements of accommodation of attention.

Chapter 6, "Immortality," seeks not to answer the question, Do we live forever? but to clarify the problems involved in raising it. It is in this chapter more than elsewhere, I think, that one gets closest to the position of the author, and, I should say, most fully realizes its difficulties. For the strict monadist, there is only private time, no public time, and within the private experience, since the subject is an indivisible unity, temporal distinctions apply only to the object, and there, like all other distinctions, only approxi-

mately. The question, Do we live forever? becomes therefore meaningless, for we can not even think of a beginning or end of experience itself.

Chapter 7, "The Relation between Mind and Body," expounds the monadistic theory. For the individual experience, the body is just part of the *totum objectivum*; underlying it, however, are monads which stand in peculiarly intimate relations to the subject—through them it acts and perceives. The type of relation involved, which the author admits is not further describable, he calls immanence. Thus interpreted, the body acts as the "nurse" of the mind, bringing the mind into relation with its environment and thus mediating the development of personality. Mr. Richardson believes that death involves merely the severing of the tie between the dominant and the subordinate monads, not the extinction of the former. The body, like a tool necessary for the performance of certain work, but not absolutely indispensable, becomes eventually a hindrance rather than a help; and death, while it withdraws us from certain parts of our environment, sets free imagination, memory and intellect.

The last chapter, "Subconsciousness and Certain Abnormal Phenomena," is an effort to interpret abnormal and so-called "psychic" phenomena in terms of the monadistic thesis.

The problems raised in this book are so fundamental that a discussion of the author's hypotheses would require an extensive article. The book is written with great care and much subtlety. There is, however, a tendency to rely too much on arguments from concepts, without due inquiry into their meaning and source. Such for example is the argument for the existence of the self on page 20. In general, I think the book would gain cogency through a larger use of empirical material. One is, moreover, left somewhat "in the air" by the author's declaration that spiritual pluralism must be supplemented by some unifying principle. For where will that lead us?

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Messiahs: Christian and Pagan. WILSON D. WALLIS. Boston: Richard G. Badger. 1918. Pp. 276.

This book undertakes to show how widespread and frequent in the history of religions are the phenomena of messiahs and messianic movements. It is a useful collation of material from a wide range of sources—such as has not been made heretofore. In addition to the messianic movement in pre-christian Judaism the author gives

interesting accounts of Jewish messiahs down through the Christian era. He also includes the Mohammedan Madhi, the Buddhist expectation of a new reincarnation of Buddha, messiahs among the North American Indians, Christian millennial hopes, Bahaism, and some of the modern new cults in Christian lands.

The book is somewhat overloaded with citations of material and references, and contains very little in the way of interpretation. A large part of the author's judgments are given in the form of quotations. Aside from the universality of messianic movements the author's main thesis seems to be that such movements, on the one hand, are the product of social conditions of distress and danger, and on the other hand, are instances of individual initiative on the part of the messiah. "The messianic religions which we have seen at work," he says, "furnish examples of genuinely individual initiative, efficient in giving new trend to the social development" (p. 259). The latter part of this thesis is especially important, but it would be better established if the author had discriminated more among the great variety of movements that he has recounted. Also his interesting distinction between the culture-hero and the messiah is made without discussion or supporting evidence (p. 269). The book appears as one of the World Worship series.

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JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. January-February, 1920. *Sur les caractères du verbe* (pp. 1-22): A. MEILLET. — ". . . the principal categories that languages have been led to create are those of the person . . . those of time and aspect, of mode and voice. The progress of civilization puts in evidence the category of time; it tends to eliminate the categories with a concrete or expressive value, and to give to abstract categories an increasing importance." *Essai sur la vie intérieure* (pp. 23-78): ETIENNE GILSON. — "The inner life coincides with the development of a personality which did not formerly exist, and for this reason is manifestly creation. Being creation it is liberty. But it is of the essence of all liberty to reveal itself to itself only in self-determination and fixation." *Introduction à la morale* (pp. 79-97): E. DURKHEIM. — These pages, edited by Marcel Mauss, constitute the last writing of Durkheim, a preliminary sketch for a work on morals. *Quelques particularités de la langue et de la pensée chinoises* (pp. 98-128; first article): M. GRANET. — "Study of the

vocabulary reveals the prodigiously concrete character of Chinese concepts: almost every word connotes singular ideas, expressing modes of perceiving aspects as particular as possible; this vocabulary translates, not the needs of a thought that classifies, abstracts, generalizes, that operates upon matter clear, distinct, and prepared for a logical organization, but on the contrary a dominant need for specification, particularization, for the picturesque; it gives the impression that the Chinese spirit proceeds by operations that are essentially synthetic, by concrete intuitions and not by analysis. . . ."

"Because of the onomatopoetic character of the words they were affected from the beginning by a kind of *phonetic immobility* which rendered difficult the development of a language obtained by the creation of grammatical forms and the use of derivations. *This development became impossible when the picturizing monosyllables were associated with inflexible ideograms.*" *Revue critique*. Mercier, C., *Crime and Criminals*; Luigi Perego, *I nuovi valori filosofici e el diritto penale*: GASTON RICHARD. *Revue générale*. *La philosophie de l'Inde: The Heritage of India Series*: P. MASSON-OURSSEL. *Analyses et Comptes rendus*. J. L. de Lanessan, *L'idéal moral du matérialisme et la guerre*: L. ARRÉAT. C. A. Strong, *The Origin of Consciousness*: L. ARRÉAT. Henri Delacroix, *La Psychologie de Stendhal*: L. ARRÉAT. A. H. Roback, *Les Interférences dans l'activité volontaire*: DR. JEAN PHILLIPE. A. Meillet, *Caractères généraux des langues germaniques*: P. MASSON-OURSSEL. *Revue des Périodiques*.

PSYCHOLOGICAL BULLETIN. November, 1919. *A Method of Calculating the Pearson Coefficient of Correlation Without the Use of Deviations or Cross Multiplying* (pp. 369-370):—A mathematical explanation. *General Reviews and Summaries: Comparison of Sexes in Mental Traits* (pp. 371-373): LETA S. HOLLINGWORTH.—Eight researches are reviewed. The work yields nothing consistent as a result of the comparison of the sexes in mental traits. *Tests* (pp. 374-381): FRANK N. FREEMAN.—Sixty researches are reviewed. The review considers them in the following groups: Theory and Technique, Studies of Old Tests, New Tests, Applications of Tests. *Correlation* (pp. 382-389): JAMES BURT MINER.—Sixty-three researches are reviewed. *Special Reviews: Robinson's Don Quixote of Psychology*: S. I. FRANZ. *Notes and News*.

Dewey, John. *Reconstruction in Philosophy*. New York: Henry Holt & Co. 1920. Pp. 224.

Edman, Irwin. *Human Traits and their Social Significance*. Boston: Houghton Mifflin Co. 1920. Pp. xi + 467. \$3.00.

Royce, Josiah. Lectures on Modern Idealism. New Haven, Conn.: Yale University Press. 1920. Pp. 266. \$3.00.

NOTES AND NEWS

AMERICAN psychologists will welcome the new quarterly, *Archivio Italiano di Psicologia*, edited by Professors Kiesow and Gemelli, with the collaboration of V. Benussi (Padua), L. Botti and M. Ponzi (Turin), C. Colucci (Naples), S. De Sanctis (Rome), and E. Morselli (Genoa). The following is from the epistle to the reader with which the first number is offered to the public: "In Italy, also, psychological research has undergone notable progress in recent years, and the contributions made by Italian students are evidence that the interest in this field is growing among us. This increase of activity among Italian psychologists makes opportune the publication of this archive, designed to bring together work hitherto scattered in the proceedings of learned societies and in foreign reviews. In addition to the work thus indicated, the *Archivio* will attempt what is the function of every such periodical—to exert a stimulating influence in general upon our field, and thus to increase the activity of those that cultivate it. In the present reorganization of our country, the psychologists too must take part."

THE University of Paris has just announced the opening of an Institute of Psychology, which is to be administered by a governing board of seven members—the deans of the faculties of letters and of science, MM. Ferdinand Brunot and François Houssay, and five professors, MM. H. Delacroix, G. Dumas, P. Janet, H. Piéron, and Etienne Rabaud. The Institute will offer courses in both theoretic and applied psychology in the following branches: general, physiological, experimental, pathological and comparative. The Institute of Pedagogy, which was founded last year under the faculty of letters, will be incorporated in the new Institute as the *section pédagogique*. In addition, there will be two other sections, a *section technique d'applications générales*, and a *section d'orientation et de sélection professionnelles*. Diplomas will be given for special work in any one of these sections, and the degree of "Élève diplômé de l'institute de psychologie de l'université de Paris" will be conferred on those following the general prescribed course of study for two semesters, and passing the requisite examinations. There will also be offered an opportunity for research in the laboratories of the Institute, under the direction of one of the professors, for students working for the higher degrees.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

PHILOSOPHY IN DELIQUESCENCE

AT the meeting of the American Philosophical Association in December, 1918, anent the suggestion that the stricken and blinded world of civilized mankind stood in sore need of that clear-thinking leadership which it should be the business of philosophy to create—anent this a member raised his opposing voice to say that philosophers have their own problems, defined centuries ago, to which, now that the tumults of war were receding, it should be their privilege to return, immured and quiet. And strangely, this Hegel-in-Jena ideal of the philosopher's affair seemed met by no small sympathy. After all, we are men of the closet, or at best men of a coterie, the chorus seemed to say: what to us, who live *sub specie æternitatis*, are the turbulent issues of the hour, the tempestive life of contentious men? The excogitated tome, the fluent abracadabras, the few hierophantic gestures of the class-room—these are philosophy! . . . The dismal phase of it is that it looks as if this were indeed a prevailing conviction among the philosophasters here in the United States in these great years of world tribulation. Our whole programme seems insignificant, small, narrow, deadening.

I

This lugubrious judgment is called forth by a question put by an editor of this JOURNAL: "What is the matter with philosophy? . . . I have a strong impression that the problems that have been passing for philosophical ones are pretty well settled up, and that most teachers of the old things are not thinking of any new ones." Who can fail to concur? Despite a creditable amount of serious reflection and of clever expression, the recent trend of professional philosophy, certainly in America, has been obtusely unrelated to the moving interests of men. Political and economic issues, never huger than to-day, seem impotent to call from philosophers forceful thinking; literature is uninspired by any central philosophical conceptions, and suffers sadly from want of such inspiration; the appraisalment of science has degenerated into its empty adulation;

and even the refreshing of history, which is the great resource of sterile periods, is as yet represented by little outstanding scholarship (for H. O. Taylor's *The Mediæval Mind* stands virtually alone as an historical work of the first order). Finally, in education itself . . . but here, perchance, is the crux.

For is not our defect primarily that we are professional pedagogues, with the cant and exercises of machine-made curricula for our guides? Probably schooling (teaching and learning alike) was never more monstrously mechanical than it is in the United States to-day, so that the very fortress of the free play of mind (and I mean philosophy) is tarred by the universal stick. The primary "matter" with it, is surely that it is regarded almost exclusively as a "subject" to be "taken" in courses, with doctorings, prescriptions, regulations, and completions. Philosophers are "professors," and philosophy is their administered sophistic—easily to be given to the unsophisticated youth, but leading to little more than a glib mannerliness of mind. It is, alas, too true that this is the case, not only with philosophy, but with many another college subject; and indeed, in consolation, I pride myself that it is less true of philosophy than of other college subjects—but the fact that the disease is here less ruinous does not make it benign. Truth is, the first step in the reform of philosophy (and of the other subjects) must be to reconceive it, not as a subject to be taught, but as matter worth learning. Let us quit writing text-books, and tell their publishers to go hang.

But this is a general indictment, with philosophy one of the least among offenders. A second, and related one, still in the pedagogic field, is the abdication by philosophers of their proper domain. In the last hundred years, or less, economics, politics, morals ("sociology"), psychology, pedagogy ("education")—all the "sciences of man"—have been, one by one, sheared away from their center, and indeed their sane anchorage, in philosophy. It is all well enough for us philosophers to survey them in their mutilated independence, every one made futile and empty by their off-shearing—to see economics and politics floundering after psychological sanity, to see psychology itself delivered over to superstitious fol-de-rol and public humbug, to see pedagogy setting up annually a new twaddle, outraging the King's English and ruining liberal education—it is all well enough to survey all this in the bitter consciousness that the emptiness and folly are the natural consequence of their abdication of the inheritance of Plato; but, for all that, we, too, have been the losers, grievous losers. What, indeed, is left to us save a few canted problems set in phrases whose mastery serves only to part us from our fellow-men? *Mea culpa!* I wrote a review of a good book and

sent it to a public journal, for the good of the public as I hoped, only to have it returned with the request to put the matter in language which *their* public could understand—it was “too philosophical.” *Too philosophical!* What, then, is philosophy? “I will speak of one man . . . that went about in King James his time . . . who called himself, The King’s Majesties most excellent Hocus Pocus, and used to say, ‘Hocus pocus, tontus talontus, vade celeriter jubeo,’ a dark composure of words, to blind the eyes of the beholders, to make his trick pass the more currently without discovery. . . .” Economics, and the rest of them, all need philosophy—desperately—but philosophy assuredly stands in no small need of the ancient interests, which in the Attic age gave her form and substance.

It was the job of Socrates to snare philosophy down from the supra-lunar solitudes and habituate her to the haunts of men. Ours is the apparently more difficult task of luring her forth from campus fences. Perhaps the first step should be a little more assertiveness within the fences, a demand that the whole body of the sciences of man be again related to their parent, not only officially, but also spiritually. This partly achieved, we may then go forth and attempt the greater coordination with the life and hopes of our time. Surely we should learn something from history; and where does history, the history of our own subject, show any profound development of human speculation save when it is movingly in contact with the whole world of affairs? The greatness of philosophy has been the greatness of its judgments upon man’s wide concerns; therein it has governed states and created literatures; its future shall be not less, but it is by no means assured that this future is to issue from its “professors” seated in their scholastic chairs. The topic chosen for the ensuing meeting of the Philosophical Association is methods of teaching philosophy. It is an excellent topic, and doubtless the first discussion should be, how shall we make philosophy worth pursuing.

II

Politics, science, art, religion, letters, and that human nature of which they are in some inevitable sense the expression, these are the cores of man’s speculative interests. Every one of them is touched upon, every one of them is thrown into luminous relief in those great dialogues which have made the name of Plato forever synonymous with philosophy, thereby showing to philosophy’s succession the full content of the philosophic sphere. It is true that they have a kind of metaphysical quintessence in the problems of knowledge, of being, of values, over which we men of the chair still mull; but it is also true that metaphysics, cut off from the imaginative, prac-

tical and physical embodiments of its thematic ideas, tends ever to pass over into empty mouthing, *flatus vocis*, words not meaningless but ritualistic—or, even more idly, into numbers and ghosts of numbers. The very nature of our treasure, which is tradition, in time clogs us with its own burdensome wealth, and philosophy, that she may breathe at all, must for a time move *terre-à-terre*. Socrates and Descartes alike should be our lesson as to this.

No doubt any one of us would like to be a Socrates or a Descartes if he but knew how to go about it. Obviously the thing is not to be done by a copying. And yet it is at least instructive that while Descartes is no copy of Socrates his virtual oracle was the same—*Know thyself* (and thereby know human nature) is the essential wisdom of each of them. May it not be that for us, men and Americans of the twentieth century, a better wisdom would emerge were we to turn our eyes more directly upon the American man of the twentieth century, and in particular to the American man of our several regional abodes, and from the life and aspirations of our own communities endeavor to find out that wisdom, that common-sense which Socrates and Descartes each persisted in attributing to his fellows—even if ironically? After all, man is the measure; and the particular man in his particular time; there is no philosophy without humanism; this is a homocentric world (and I take the *homo*-in both Greek and Latin). For my own part, I can not conceive that the task of Columbus is more than begun; he touched the littorals of America, but the continent, as a maker of human life, is yet to discover; and its full discovery will never be until this life is thrown into a philosophic perspective. I know that some of my aggrieved brethern will interpolate—But *Pragmatism!* What is this but America *par excellence*? . . . Yes, it may be America; but is it philosophy? Our western farmers are said to grow corn in order to feed hogs in order to buy land, in order to grow corn in order to feed hogs in order to buy land, and so *ad infin.* This is good Americanism (acquisitiveness, activity); it looks like pragmatic truth, for it works for all concerned (the hog perhaps suffers illusion); but is there not, after all, a background of trust in the solar seasons at the one boundary and of human impulse at the other which calls for a more comprehensive theoretical frame? (Incidentally, I can not imagine this need to be quite met by our other American scholars who reduce the bucolic sequence to three moments of fact, “. . . corn . . . hog . . . land . . .,” held in adamant and mutual externality by the relate, “. . . in order to. . .”) Of course one never knows; it may be that the pragmatic merry-go-round is the soul of America; it may be that the realistic facts and relates are its triumphantly

dissected body; sometimes the case looks just so blank. But for myself, owning an irrational and I trust ineradicable love for my country, I am always in hopes of finding reasons that must justify this love—convert it into an entire confidence, and thereby into a philosophy.

My point is that back of this immense New World life, which Nature, God or the Devil has created, there must be, structuring or inspiring it, new ideas—ideas worth finding out and figuring forth. I confess that I don't know what they are; I concede that my reason for believing in them is but my patriotic prejudice; I own that I have no goods to show, and that what I am saying must seem idly senseless to most who read so far. But last evening I stood upon a blue mountain, and I looked down upon the many-mirrored plain reflecting the splendors of the descending sun, and I cried in my heart that the Lord must hold a glorious salvation for so beautiful a land!

III

As I recall the context of the editor's query, his anxious point was, What should be the programme of a journal of philosophy, of THE JOURNAL OF PHILOSOPHY, *etc.*, in this day and hour? (First, I should recommend dropping the *etc.*—the very title ruins a breath.) I hope, of course, that the implications from what I have said will give such answer as I can suggest. For what should be a journal of philosophy save, journally, a record of reflecting minds, and on all subjects which inspire reflection? Philosophizing is certainly not restricted to the solution of antinomies—nor even to all subjects under the heavens, for it alone may be supra-celestial. Why should we give over history, politics, art, letters, religion, if we remember the Greeks who fathered us? Some of these subjects, I own, may seem dead issues to the occupants of the seats of the mighty, but none of them *are* dead issues, and it might well be within the compass of its powers for the JOURNAL to find out those minds where the issues are living and expressive. Your editor is proverbially a prospector, and such a quaking as old Earth has suffered should have opened many a hidden vein. Besides, everything seems to need overhauling, ideas even more than the rest of the paraphernalia of civilization; it is our *métier*; let us to it.

If in the attempt we might be able to remember our good English past—what Hobbes and Locke did for plain English vocabulary, what Hume and Mill did for sane English style—if we might remember these and forget the locutions of the barbarians, perhaps philosophy might achieve once more its ancient power to inspire *belles-lettres*. Heaven knows it is difficult! My own rueful recol-

lection is of many a polite—"Ah, your *language* is truly sounding, but what does it mean?" We get it unwittingly and use it unconsciously, the whole sonant rote, but there is a possibility (I have believed myself to realize it now and then) of joyously discovering that we, too, are capable of discoursing in prose. Surely, it would be a fine thing if philosophy should, in the next decade, give such a tone to our letters as to lift our pleasant estheticisms into the realm of literature and cause literature to body forth an American imagination. And would it not be, also, the very bulwarking of our country's truer life?

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PRAGMATISM AS INTERACTIONISM

II

IN the former part of this article it has been pointed out that the most characteristic and most emphasized thesis of pragmatism, in the more recent utterances of its advocates, is the doctrine of the potency of "intelligence" to bring about modifications in the physical world; that Professor Dewey, Professor Bode, and others, are consequently in avowed and vigorous opposition to parallelism or epiphenomenalism in all its forms and disguises, and to the kindred assumption of the universal reducibility of bodily processes to mechanical laws; but that, at the same time, most pragmatists are altogether averse from any sort of psychophysical dualism. They seek to combine in a single doctrine the assertion of the efficacy of thought with the denial of the existence of any distinctively "psychical" or "subjective" elements in experience. We are now to inquire whether both these views can consistently be held by the same philosopher, without a falsification of the facts of those "concrete practical situations" which it is peculiarly the concern of the pragmatist to observe and describe truly.

It is to be noted at once that such a combination satisfies but poorly the pragmatist's antipathy to dualism as such, and hardly accords with his attachment to the principle of "biological continuity." A dualism of types of causal process, of laws of action, means just as deep a "cleavage in the nature of things" as a dualism of modes of existence; to a pragmatist, indeed, it should seem much the more significant cleavage of the two. If the appearance of "intelligence" upon the cosmic scene means, as Professor Bode says, the "advent of a new category"; if bodies, under the influence of in-

telligence, move in ways in which the same masses of matter would not move under the action of any forces known to physics or chemistry—then it follows that an irreducible discontinuity is to be found in the system of natural laws. I make this point merely because of its bearing upon the presumption which seems to be one of the principal grounds for the pragmatists' denial of the existence of anything "mental" or "subjective." We have already seen Professor Dewey urging the methodological presumption of "continuity" as a reason why the hypothesis that "consciousness is something outside the real object, is something 'different in kind,'" should, at the least, be not accepted until "after every other way of dealing with the facts has been exhausted";¹⁹ and in practise this presumption is treated by him as decisive. He repeatedly assails the dualistic epistemology on the ground that it "makes consciousness supernatural in the literal sense of the word" and implies that "the organ or instrument of knowledge is not a natural object"; what this apparently means—unless "supernatural" is used merely as an abusive epithet—is that "ideas" and "states of mind" are conceived by the dualist as a "peculiar kind of existence" essentially different from "things," *i.e.*, from the physical things with which natural science is conversant. But since the pragmatist himself believes, not, indeed, in a peculiar kind of existence, but in a peculiar kind of causal agent or mode of action, his "creative intelligence" is, in the same sense of the adjective, quite as "supernatural" as the dualistic epistemologist's "representative ideas." It may, in fact, be said to be *more* "supernatural." For after all, mere "representation" is a function which, though external to the system dealt with by the natural sciences, does not disturb the system, or limit the range of applicability of the laws of those sciences. But the control of "things" by a unique, non-mechanistic process of "intelligence"—nay, the creation of new content of reality, the introduction into the physical order of genuine novelties, by man's reflection and contrivance—this is not a mere external addition to, but an interjection of a foreign element into, the system of nature known to physical science. Indeed, Professor Bode, after setting forth in pragmatistic fashion the process of selective and purposive control of bodily behavior, refers to it as a "miracle."²⁰ Mr. Santayana's parallelistic dualism, as it seems to me, deviates less conspicuously from the presumption of "continuity," since it refuses "to attribute to thought a power, by virtue of its intent, to bring about what it calls for," while admitting the distinctive existence of

¹⁹ *C. I.*, p. 35.

²⁰ *C. I.*, p. 240.

thought as a physically ineffectual accompaniment of bodily processes.

These considerations, however, are merely preliminary; they serve to show only that the pragmatist is not steadfast in his loyalty to that *realwissenschaftlich* point of view in the name of which he appears to condemn psychophysical dualism. The presumption which he invokes as virtually decisive at one point, he quietly disregards at another. Perhaps it may turn out that it is a presumption contrary to fact in both cases; and, indeed, that it can not be rejected at the one point without being rejected at the other also.

From the question of antecedent methodological presumptions, then, we turn to the question of fact. We must directly scrutinize the process of "intelligence" or practical reflection, to note what elements are observably contained in it, and what other facts must necessarily be presupposed, if it is to be credited, as it is credited by the pragmatist, with causal efficacy in the world of "things."

An answer to this question has been attempted by Professor Bode in the essay already cited; and it will serve our purpose to consider his answer first. He seeks to determine the differentia of what he calls (though apparently without any "subjectivistic" implications) "conscious behavior." That, at any rate in man, responses to stimuli occur which are not "purely mechanical reactions" he finds to be a plain matter of fact. These specifically "conscious" responses have three distinguishing peculiarities: (a) They are "processes of organization not determined by a mechanism previously provided"; they have "a peculiar flexibility, so as to meet the demands of a new situation. . . . The response to the situation is tentative or experimental in character." In this respect these reactions are essentially unlike reflex arcs. "The reflex arc is already set up and ready for use by the time the act appears upon the scene. In the case of conscious activity we find a very different state of affairs. The arc is not first constructed and then used, but is constructed as the act proceeds; and this progressive organization is in the end what is meant by conscious behavior."²¹ (b) But this is not the whole story; for this "progressive organization" has, furthermore, a "selective or teleological character." The selection "is determined by reference to the task in hand, which is to restore a certain harmony of response. Accordingly the response is selected which gives promise of forwarding the business of the moment."²² (c) This selective control, furthermore, operates in a unique and highly significant way. "It consists in giving direction to behavior

²¹ *C. I.*, p. 238.

²² *C. I.*, p. 240.

with reference to results that are still in the future." Thus, in the case of an organism capable of conscious behavior, "a perceived object is a stimulus which controls or directs the organism *by results which have not yet occurred* . . . [e.g.] a 'sharp' razor, as perceived, does not actually cut just now, but it bodies forth the quality 'will cut,' i.e., the perceived attribute derives its character from what the object will, or may, do at a future time. . . . The uniqueness of such a stimulus lies in the fact that *a contingent result somehow becomes operative as a present fact; the future is transformed into the present, so as to become effective in the guidance of behavior.*"²³ Thus, finally, "*to be conscious is to have a future possible result of present behavior embodied as a present existence functioning as a stimulus to further behavior.*" It is this "conversion of future results or consequences into present stimuli" which constitutes the "miracle of consciousness."

This description is given by Professor Bode not merely as an account of "conscious" behavior, but also as an account of the nature of "intelligence." To "act intelligently" is to act "with reference to future results which are sufficiently embodied in present experience to secure appropriate reactions." But for certain qualifying and explanatory clauses which Professor Bode adds, we might very well accept this as an accurate and illuminating, if not complete, statement of the distinguishing peculiarities of intelligence in its practical aspect. But it has now to be noted that when Mr. Bode speaks of "acting with reference to future results," he apparently means what would ordinarily be called—and what, in fact, he himself calls—an *unconscious* reference to such results. He writes, for example: "A living body may respond to an actual cut by a knife on purely reflex principles, but to respond to a cut by anticipation, i.e., to behave with reference to a merely possible or future injury, is manifestly an exhibition of intelligence. *Not that there need be any conscious reference to the future as future in the act.*"²⁴

What this means, as I judge from certain other passages, is that any response is, in Professor Bode's sense, "controlled by a reference to future results," provided only that (a) the response does in fact (however little the organism be aware of the fact) serve to adapt the organism to meet some future situation in a more effective way; and (b) that this adaptive character of the present response is the effect of previous experience in a situation similar to the future one. In any given situation in which an organism may find itself, and to which an immediate, reflex response is in any way impeded or in-

²³ C. I., p. 242; italics mine.

²⁴ C. I., p. 242; italics mine.

hibited, there are present in the organism a variety of "nascent motor impulses." If one of these impulses has already, in one or more previous experiences of the same organism, been carried out, its "adaptive value" has thereby been already tested, at least to some degree. In so far as this previous experience influences the present response, we may say that the "future possible result" of that response "is embodied as a present existence functioning as a stimulus to further behavior." For the future result will, after all, be the same in kind as the past result which is one of the actual determinants of the present response.²⁵

When Professor Bode's analysis is construed in the light of these explanatory clauses, it becomes instructive chiefly by its omissions. It is a description of "intelligence" from which all that makes intelligence intelligent has been expressly excluded as non-essential. The terms used are as applicable to the behavior of a *paramecium* as to that of a man, to the activities of a trained flea as to those of an inventor, an engineer, an architect or a statesman. But, whatever be true of the *paramecia* or the fleas, we happen to know that, in the case of inventors and engineers, and even of statesmen, there is a "conscious reference to the future as future";²⁶ and such conscious reference is a part of the essential differentia of that class of acts commonly regarded as "exhibitions of intelligence." An intelligent act, in short, is an act controlled by a plan; and a plan of

²⁵ The passage in Bode's essay upon which I chiefly base this interpretation of his notion of "unconscious reference to the future," is the following: "The uniqueness of the conscious stimulus lies in the fact that the adaptive value of these nascent motor impulses becomes operative as the determining principle in the organization of the response. The response, for example, to 'sharp' or 'will cut' is reminiscent of an earlier reaction in which the organism engaged in certain defensive movements as the result of actual injury. That is, the response to 'sharp' is a nascent or incipient form of a response which at the time of its first occurrence was the expression of a maladaptation. . . . The character of the stimulus is determined by the adaptive value which the incipient activity would have if it were carried out." (*C. I.*, pp. 243-244.) I assume that the "reminiscence" in question need, for Professor Bode, be no more conscious than the future reference; and that, therefore, the "intelligent action" which he is describing would be sufficiently exemplified by any case of the formation of adaptive habits of response through the simplest process of trial and error, without either actual recall of past experiences or actual predelineation of future situations.

²⁶ I note in passing the odd circumstance that Professor Bode, even while offering a definition of "consciousness," refers to something else, also called "consciousness," which is excluded from that definition. In substance his formula reduces to the following: "Conscious behavior is behavior determined by a reference to future consequences, but not necessarily by a conscious reference." This, I suspect, is more than an accidental verbal slip; the inconsistent use of terms arises naturally from an error of fact in the analysis.

action obviously relates, not merely in fact but by its explicit intent, to the not-yet-existent. It also, in so far as it is the fruit of reflection, involves an explicit reference to the no-longer-existent. "Imaginative recovery of the by-gone," Professor Dewey somewhere remarks, "is indispensable to successful invasion of the future." That, of course, overstates the case, as the felicities of instinct and of acquired adaptive habits may remind us. But it is manifestly true that imaginative recovery of the past is indispensable to *intelligent* invasion of the future. Thus the familiar and characteristic form of human "response to situations" which is known as planning consists essentially in two paradoxical-sounding processes—in the two-fold "present-ation" of the not-present. The "function of effective reflection" is performed only where there is both a partial reconstruction of the past and a partial pre-construction of the future. The principal constituents of the planning-experience are things which, though in a sense present in that experience, are—to use a happy phrase of Professor Dewey's—"present-as-absent." For, as Professor Dewey justly adds, "we must not balk at a purely verbal difficulty. It suggests a verbal inconsistency to speak of a thing present-as-absent. But all ideal contents, all aims (that is, things aimed at), are present in just such fashion. Things can be presented as absent, just as they can be presented as hard or soft, black or white."²⁷ Thus Professor Bode would have truly described the process of intelligence if he had taken his first formulation of it quite literally, without the subsequent qualifications by which he renders it false to the observable fact. Reflection about a plan of action is, in no figurative sense, "a conversion of possible future results or consequences into present existences."

But if the meaning of this fact be considered, it should become evident that the pragmatists' attempt to avoid psychophysical dualism, while at the same time affirming the efficacy of "intelligence," has broken down. For in what sense is the future "converted into a present existence" at the moment of practical reflection? Not, obviously, in a physical sense; the "things aimed at" are not at that moment included among the contents of the physical system. If physical science were able to take a complete inventory of that system at the moment in question, it would find therein no "future existences" and no "results which have not yet occurred." There would be such and such a number of particles, acted upon by such and such forces, disposed in certain spatial groupings, and

²⁷ *Influence of Darwin, etc.*, p. 103. I have discussed the epistemological bearings of this pregnant remark of Dewey's at some length in my contribution to *Essays in Critical Realism*.

moving in various determinate directions. None of the particles, nor of the forces, nor of the movements (*pace*, with respect to the last, the theory of relativity) would bear either to-morrow's or yesterday's date. Doubtless, "yesterday this day's madness did *prepare*"; but it was not, either in existence, or in kind or "essence," that which it prepared. The category of "presence-as-absent" is foreign to the vocabulary of physical description. The material universe, at a given time, consists of things that *are* at that time, at particular places in space—not of things that have been or are possibly going to be, and are at no particular place in space. Literally "*em-bodied*" in present experience, "contingent future results" can not be said to be, without completely falsifying the concept of body, as held either by common-sense or by natural science.

On the other hand, it is, as we have already reminded ourselves, of the essence of a plan that it shall be made up largely of elements that do not now exist. Yet there is no paradox in this, nor need we talk mystically of it, as if the thing were a "miracle." For the sense in which the elements of a plan of action are present is different from the sense in which they are not present—are past or future; and this distinction of senses has been perfectly familiar and easy to the entire human race with the exception (apparently) of some very primitive peoples and certain recent groups of philosophers. "Present" the future results literally and indubitably are, inasmuch as they are elements in the experience of the planner at the moment of planning, and are at that moment, as Professor Bode has said, functioning as stimuli to present behavior. "Present" the future results as obviously are not, in the sense that the anticipated or desired outcome is already a fact of that external order into which the planner intends to introduce it. A plan of physical action would not be a *plan* of action, if that which it contemplates existed, or were already going on, in the physical world; for a plan requires to be "realized." This does not mean that, before "realization," the plan has no reality. To realize, in the meaning which the term has when used in this connection by common sense, is to *physicalize*—to act upon matter in such a way that the situation or configuration of things which was formerly but a dream, a hope, a purpose, takes its place among the solid, stubborn, non-contingent, public facts of the sensible world. While not the conversion of the unreal into the real, this is the conversion of a single "essence" from one order of reality to another.

Thus it is only in consequence of an incomplete analysis of the nature of practical reflection and intelligent action that pragmatists have been able to avoid giving what Professor Bode calls a "subjec-

tivistic or psychical interpretation" to those functions. They have failed to see that a plan of action *must* be a "psychic existence," in a perfectly definite and intelligible sense. There is, be it noted, no mystery about the meaning of the terms "mental," "psychic," "subjective." A thing is a "mental entity" if it is actually given at any moment in any context of experience, but can not be regarded as forming a part, at the same moment, of the complex of masses and forces, in a single, "public" space, which constitutes the world of physical science. But if plans of action are, or include, in this sense, mental elements, and are also—as the pragmatists assert—genuine causes or determinants of physical events, it follows that, rightly construed and consistently thought through, pragmatism means interactionism.²⁸

A plan of action, however, as we are rightly reminded by pragmatists, is not, as some of the foregoing expressions might seem to imply, a static thing. We may, for purposes of analysis, take a temporal cross-section of the planning-experience, may view it as—what, at any given moment, it is—a complex of content made up of such and such elements. But as a whole it is essentially a process, a sequence of complexes constantly developing one into another. And the process is, as Professor Bode has observed, one of "progressive organization" having a "selective or teleological character." The plan itself and the measures for its realization are gradually built up, through the bringing together of such thought-material as is recognized as having relevancy "to the business in hand," and through the deliberate selection of some possible and nascent responses and the neglect or conscious repression of others. What are the "causes" which control—or which, at all events, seem to the subject to control—this process of selection and organization? In other words, what are the constant correlations of factors discoverable in the process, and what is the nature of the factors correlated? By virtue of what property or relation does one possible bit of content get attended to, taken account of, perhaps taken up into the organized plan itself, while other bits are ignored or eventually excluded? For an answer we have but to recall examples of the way in which "creative intelligence" actually operates.

An architect, for example, is called upon to design a group of college buildings for a given site. Considering the uses to which the buildings are to be put, the character of the site, *etc.*, he decides that

²⁸ Neo-realists will, no doubt, at this point take refuge in the grateful obscurity of the conception of "neutral entities." As I have dealt elsewhere with that conception I shall not consider it here. It is not, at any rate—so far as I know—usually accepted by pragmatists.

the style of architecture to be adopted must not be "monumental," must be "flexible" and capable of an extensive variety and irregularity in size, elevations and ground-plans, and must permit the use of a certain local stone. With these criteria in mind he reviews the historic styles and, rejecting all of those now in fashion, decides upon the rustic Renaissance architecture of northern Italy. In such a typical process of planning can the determinants of the sequences be properly said to be exclusively either "physical" things or "physical" forces? Not if the adjective is used with definite meaning, and if, at the same time, we avoid confusing the attributes of one moment or situation with earlier or later ones. The "cause" of the behavior of a material system at a given moment is stated by physical science ultimately in terms of the masses, positions, velocities, electrical charges, of that system relatively to other existing masses or particles (and of its chemical composition, in so far as this is not yet reducible to the former terms), at the same moment or the immediately antecedent moment. In no such terms can planning be described. The controlling factors in the whole process by which the architect first defined his criteria, then by means of them selected his style, and finally worked out his detailed designs, were presentations of physically non-existent things, of future possible results and of past experiences taken as throwing light upon future results. With these purely ideal, and at first highly general and abstract, models, every potential element of the final plan was compared; and its adoption or non-adoption depended upon the nature of the logical relations between its properties and those of the imagined, the not-yet-realized, consummation. To tell the architect that the true reason why his process of selection and organization took the course it did is adequately stated by giving, for each of a series of moments, the distances and mechanical relations between the molecules composing his body and other coexistent masses of matter—to tell him this is to talk what to him, at best, must appear offensive nonsense. However little or however great the efficacy of a plan as a force in the physical world, it is the inner developing logic of his purpose, not the laws of mechanics, that inevitably seems to the planner to determine what the plan itself shall include and how its elements shall be combined with one other. In the recognition of the relation of means to the end to be realized, and in the complex processes of logical analysis and inference which this may involve, the reflective agent is carried along from one momentary phase of experience to another by what may analogically be called "forces"; but, in so far, at least, as the process is what it purports to be, the nature of these forces is falsified as soon as the attempt is made to formulate

them as functions of the space-relations of molecules or electrons. It is true that, as psychoanalysis is showing us, the agent is frequently mistaken as to the real determinants of his choices and even of the results of his "reasoning." But not even psychoanalysts, I take it, would generalize this conclusion so far as to make all planning and all reasoning a mere expression of unconscious impulses, which explicit intents and the recognition of facts and logical relations never either modify nor supplement. So sweeping a generalization would, of course, render all reasoned conclusions meaningless, including those of the psychoanalyst.

Professor Bode, at any rate—as we have already seen—expressly accepts the assumption of the distinctiveness of the determinants controlling the sequences which constitute "intelligence." He emphatically repudiates the notion that those sequences "are nothing more than an interesting indication of the way in which the neural machinery is operating" and that "the progress of an argument is in no way controlled or directed by the end in view, or by considerations of logical coherence, but by the impact of causation." But this again—when conjoined with the pragmatist's affirmation of the physical efficacy of intelligence—must be recognized to mean psychophysical interactionism; since "ends in view" are, before their realization, "mental" or ideal, *i.e.*, non-physical, things, and since "considerations of logical coherence" are not among the forces, or determinants of the relative motion of bodies, of which physics and chemistry take account in their formulas. The view to which Professor Bode commits himself, and which seems to be the typical pragmatic view, either excludes the idea of causation altogether from purposive action, or else it must finally "interpolate mental links into the causal chain."

Thus, whether we consider the "creative intelligence" of pragmatism analytically or dynamically, as a state or as a sequence controlled by certain distinguishable causes, the interactionist implications of the conception are evident. Fundamentally—to sum up—the doctrine of instrumentalism, in the present stage of its development, is a revolt against that strange nineteenth-century aberration, epiphenomenalism—a revolt, however, which can not maintain itself without an alliance with an honestly dualistic conception of the psychophysical relation.²⁹ Pragmatism insists that, whatever philosophical propositions be true, one class of propositions must certainly be false—all those, namely, which either assert or imply that human intelligence has no part, or no distinctive part, in the control of physical events and bodily movements, in the modification of en-

²⁹ This does not necessarily imply an ultimately dualistic metaphysics.

vironment, or in the actual determination, from moment to moment, of any of the content of reality. That man is a real agent—and that the distinctive quality of his agency consists in the part played therein by the imaginative recovery and analysis of a physically non-existent past and the imaginative prevision of a physically non-existent future—these are the first articles of any consistently pragmatic creed. Such a creed is simply a return to sanity; for these two theses are the common and constant presuppositions of the entire business of life. Never, surely, did a sillier or more self-stultifying idea enter the human mind, than the idea that thinking as such—that is to say, remembering, planning, reasoning, forecasting—is a vast irrelevancy, having no part in the causation of man's behavior or in the shaping of his fortunes—a mysterious redundancy in a cosmos which would follow precisely the same course without it. Nobody at a moment of reflective action, it may be suspected, ever believed this to be true; and even the composing and publishing of arguments for parallelism is a kind of reflective action.

If, however, this account of the true implications and chief significance of contemporary pragmatism is correct, that philosophy has before it certain unfulfilled tasks—the task of a more serious and thorough examination of the psychophysical problem than it has yet given us, and of the formulation of a philosophy of nature and of the evolutionary process which shall be in keeping with the two fundamental pragmatic principles.

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THE NATURE OF ESTHETIC OBJECTIVITY

THERE has been much debate as to whether esthetic values are objective and absolute or subjective and relative. The former view would give a rigid guide to taste and criticism. It is, however, subject to two difficulties: (a) theorists can not agree as to what the objective norms are; (b) when they try to account for the variations of actual taste among individuals and among nations, they are forced to admit that judgments of taste which seem, to those who make them, objective and absolute are in fact modified by subjective factors; indeed the alleged objective factor is so overlaid with convention, prejudice, and accident that it ceases to be empirically traceable.

Conversely the subjective and relative theory accounts for the variety of actual taste, but it renders unintelligible our attempts to

"improve" and "correct" the taste of others and indeed of ourselves. We do not ordinarily seek to convert the man who prefers fishing to hunting or raspberries to strawberries. But we do spend a great deal of energy in trying to spread a taste for "the best" in music, in literature, in house furnishing, *etc.* To a thorough and clear-sighted relativist such an effort must appear altogether misguided; he can attribute it only to a tyrannical tendency in human nature which seeks to impose its own tastes on others and will not tolerate difference.

Now it is, alas, true that human nature has this unlovely propensity, which often makes itself felt in the esthetic sphere. We often find a fanatic engaged in the paradoxical propaganda of spreading his own narrowness. (See Tolstoi in *What is Art?* for moralistic narrowness, and the *vers libristes'* anathemas on rhyme and meter for formal narrowness.) This propensity extends even to those points most often admitted to be subjective. We sometimes encounter a bore who is offended by our rejection of cucumbers or bridge and tries to open our hearts to their charms. But the best teachers of art and literature are not of that type: their temperament is far removed from fanatical intolerance. They have not a brutal desire to modify their pupils' taste because it differs from their own, but they feel that in every man's nature there is a potential demand for "the best" which needs to be crystallized into an actual demand. Their attitude is not expressed by saying, "I like Shakespeare and you don't; now I am going to compel you to like him," but rather, "Your nature needs the breadth and depth and exhilaration which Shakespeare can give you; let me smooth out the difficulties that hamper your responsiveness to him, and you will be the gainer." One who lays stress on the effort to cultivate a taste for the best may easily be led to the view that absolute esthetic values are "pre-supposed," otherwise every taste should be left to its own devices.

Evidently some synthesis is needed. This may be achieved by considering the objectivity of esthetic values as potential rather than actual, a problem rather than a datum, an aspiration toward unity and richness, rather than the possession of a rigid yardstick of value. This aspiration reveals itself in the process of convergence and enrichment of developing tastes, not in an extant uniformity of tastes. The following paragraphs are an attempt to amplify and justify this view of esthetic objectivity.

One factor tending toward uniformity is the share-demanding or appropriative tendency. Desiring to enjoy fullness of life, we desire to enjoy what we see others enjoy. Were this tendency not modified by others it would level down as well as up; it would not

only make the musical novice aspire to appreciate Beethoven, but it would make the esthete yearn for the joys of the merry-go-round. This would tend to uniformity by an indiscriminate and reciprocal fusion of tastes, like a mixture of liquids. But this sharing tendency is in fact modified by a leveling-up tendency which may be called aristocratic. We prefer some types of life to others; especially we prefer the type of life we suppose to be led by our superiors in endowment, experience, and opportunity. We desire to enjoy what the superior man enjoys, as a means of becoming superior and as the reward and seal of superiority. We are capable of an experience superior in wealth and subtlety to what we actually enjoy; we seek those esthetic experiences which we hope will actualize that potentiality. The novice in any art is convinced that the master has a richer experience of that art than he, and he is willing to make sacrifices and submit to guidance in order to attain mastery. He is willing to practise Bach fugues and to study "values" in landscape, hoping that they will eventually evoke an appreciative response in him.

The best in esthetic experience is what is preferred by those who have the richest experience and the subtlest discrimination in that field. In the neighboring field of ethics Aristotle's criterion was the judgment of the temperate and sagacious man (*ὁ φρόνιμος*).¹ There seems to be a circle in making the wise man's decision the standard of wisdom; yet in no other way can a standard be made concrete. Similarly in esthetics, the true values are those imputed by the cultivated man. But we can avoid the circle, since we need not define the cultivated man as one who has the sense of true values; we may define him more significantly as the man who has harmoniously and richly developed his powers of appreciation and discrimination.

The preferences of the cultivated man are valid for his inferiors because they have similar powers in potential form and desire to develop them. This validity does not mean that his preferences are to be externally accepted and parroted, but that they should be inwardly relived. Nevertheless criticism of art and literature should avoid being dogmatic, because no man is fully cultivated. The critic should not pretend to fulminate infallible decrees. On the other hand he falls short of his task if he is content to give us only "the adventures of his soul" as a purely subjective record. Let him judge, not as he momentarily feels, but as he aspires to feel, striving toward ever higher objectivity.

The authority of tradition rests on the likelihood that the con-

¹ *Nicomachean Ethics*, bk. 2, ch. 6, sect. 15; cf. J. A. Stewart's note on the passage.

sensus of apparently cultivated persons throughout many generations will approximately represent humanity at its best and therefore be approximately objective. That authority is limited by the following facts: some legitimate human interests have been late in finding a voice—such are the interests in landscape and in childhood; it is possible therefore that other interests have not yet found adequate esthetic expression; at any rate this should not be precluded by a slavish adherence to tradition. Likewise some media of expression have been late in developing; music as we know it is almost wholly a product of the last two centuries and it would be folly to judge it by the canons of Greek or medieval music. The verdict of tradition, like that of the individual critic, should be relived not parroted. It may be transcended when the new verdict can be shown to rest on a richer, more harmonious, and more discriminating experience than that which formed the basis of the tradition.

To our doctrine that we all desire to enjoy what the most cultivated enjoy, the objection may be made that street boys do not in fact desire to appreciate Beethoven or Botticelli. But this merely means that you can not go up stairs five steps at a time. The street boy is eagerly reaching out for novel and richer enjoyments, only his esthetic experience is so meager that his outreachings are ill-directed. Nevertheless the path is open from the movies through the best-selling novels to Kipling, Stevenson, and beyond; the path is open from jazz music through comic opera and operetta to Verdi, Wagner, and the greatest music. The path is open, but the individual may not see far along it.

The situation as I see it may be summarized as follows. The subjectivists are right in denying that we are natively endowed with an identical taste, and in demanding that our taste should always be our genuine preference, not a conventional echo. The objectivists are right in maintaining that some standards of taste are really better than others, and in urging that we should respect tradition and work for a convergence of tastes. The ideal standard, however is not to be found by looking downward or backward, but forward into the richest and most harmonious forms of possible experience. The judgments of individuals have a degree of objective validity proportional to the wealth and harmony of the experience on which they are based.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Social Problem (revised edition). CHARLES A. ELLWOOD. New York: The Macmillan Company. 1919. Pp. 289.

The term, social problems, is a familiar one; but the expression, "the social problem" is not so well known. And when a book appears with that title, one's curiosity is aroused to know just what is *the* social problem, whether it is the single tax, or socialism or something entirely new. By "the social problem," Professor Ellwood means the problem of "human living together" or "the relations of men to one another." It isn't the problem of crime, of child labor, of taxation or of divorce; it is all of these and every social problem, because they are all problems of living together.

The present volume is a revised edition of a work which appeared a few years ago, the occasion of the revision being the grave social question of the reconstruction period following the armistice with the Central Powers. With revolution, more wars, class struggles, and strikes there is certainly a problem of living together harmoniously. Professor Ellwood had developed in the first edition certain principles involved in living together. As these principles were of quite general application there has been no occasion to revise the principles; it has only been necessary to apply them to the present situation.

What then are these principles that are applicable to all social problems and particularly to the problems of reconstruction? The principles are in the nature of factors, causes and solutions and are five in number: the historical, the physical and biological, the economic, the spiritual and ideal, and the educational. All of these are of course important factors in social problems. The interesting question is the relative importance of these various factors. The author does not rank them with any weights, nor is the qualitative significance measured very precisely. In a particular social problem one factor will be predominant, while in another social problem a different factor will be of greatest importance. So that no sort of ranking according to importance would be theoretically sound for all social problems. And then the factors are of different natures, not of the same plane, so to speak, and hence a ranking becomes difficult. In any case, Professor Ellwood does not, in his analysis of *the* social problem, propose to estimate these factors as to their relative significance. He seems concerned rather in warning against an interpretation in terms of any one factor. One of the virtues of such a generalized presentation is the consideration given to a number of factors, a sort of insurance against too narrow a concept of

causes, as has been the case with students of climate, of heredity and of economics.

While the author does not purposely rank the factors, some conception can be had of the ones he thinks are of greatest significance. Such evidence can be found all through the book, very largely because the analysis is so general that there is considerable selection, emphasis and valuation. It is clear for instance that the author is not an extremist in his appreciation of eugenics, although he does place considerable stress on the biological factor. He is quite definitely not a believer in the economic interpretation of history. Although admitting importance to economic causes, he appears at times to minimize them. He is emphatic in his opposition to the materialistic interpretation. It seems to the reviewer that the author considers as most important what might be loosely called the spiritual factor, meaning by spiritual those psychic qualities that are found in morals, religion, ideals, education. The word spiritual appears to be used in the book somewhat in this sense. While it is probably unfair to call the author a believer in the spiritual interpretation or indeed to classify him as an interpretationist at all, nevertheless he seems most eager to give great prominence to certain factors which are variously called ideal, spiritual, religious, moral and educational.

A few quotations will illustrate the trend of his social philosophy. "What the world needs is a new set of values, even more than a new economic system" (p. 191). "The general acceptance of such an ethics would have prevented the present war; and whatever the issue of the present struggle, only the frank acceptance of such humanitarianism by the leaders of future civilization can save the world from a series of endless conflicts between classes, nations and races" (p. 215). "... no social machinery can, independent of character and intelligence in individuals, save society from catastrophes, to say nothing of solving the social problem" (p. 252). "If the governing classes will keep in touch with the needs of all classes; if those in authority, in law, in industry, in education, in religion, will seek first the public good, if all classes will seek to keep open the means of understanding and sympathy with all other classes, there will be no more need of revolution as a means of social progress than there is of children's diseases in individual development" (p. 259). "The development of a fuller social intelligence and social character in the individual is the heart of our problem. Practically it becomes, therefore, largely a problem of social leadership and social education" (p. 262). "If we want true civilization we must get rid of the *mores* of barbarism which linger among us" (p. 277). "Enough perhaps has been said about the nature of society and

social changes to show the essentially psychic or spiritual nature of the whole social problem, that it is primarily a problem of values, of opinions as to human living together" (p. 39).

These quotations and many other selections like them say that if we were all altruistic, imbued with the spirit of service, of noble and good character and socially religious, there would be no social problem. This has been the moralist's solution for ages and is the social message of Christianity. Such a programme has been proposed, estimated and reviewed many times before and needs no new going over here. Nevertheless one does feel like asking in a quite practical way, How are we going to become so unselfish? How are we going to get the ethics that "would have prevented the present war"? Practically, how are we going to get "the governing classes" to "keep in touch with the needs of all classes"? How are we to obtain this "new spirit"? The author doesn't devote much space to saying just how and where we are to get this new spirit, whether from taking thought, from will power, from certain spiritual sources, from ideals, or from the trend of progress. There have been many answers to these questions. One such is that we get this unselfishness through some spiritual source, say, a connection with God, and spread it through preaching and right living. The best consideration of these questions is found in the realm of philosophy. But the philosophical analysis of this solution is not gone into; nor does he in this volume discuss the underlying basis of original human nature as a practical source of this new spirit.

He does emphasize as a practical and constructive contribution the educational system, better breeding and the utilization of science. It is interesting to observe also that he seems to minimize greatly, if indeed not to reject, the idea of the organization of selfishness, as significant in the solution of social problems. "No external machinery of social organization can possibly solve the problem" (p. 250). There are two attitudes toward selfishness in society. One is to develop more altruism. The other is to organize selfishness within boundaries. Professor Ellwood seems to have more faith in ideals of unselfishness than in the organization of selfishness within boundaries. It is not quite fair to make this spiritual solution appear as the only one presented and it is true the factors of heredity and of history and other factors are recognized, yet he seems eventually to lead up to one factor, as a cause and a solution, namely, character; which, it is submitted, is not a solution but is itself a world-old problem.

The great social unrest and turmoil in Europe and in America during the reconstruction period certainly does lend emphasis to the

author's solution. If we were less selfish and had the proper character, no doubt, there would not be so much strife. Professor Ellwood does not tell us how we can get this unselfishness and good character right now, but he does point out again and again danger of "catastrophe," of "endless conflict" and of the possible downfall of true civilization and a return to barbarism. All of which gives point to a solution.

The foregoing discussion raises the question as to the limitations of a general treatise on the social problem as compared with specific treatises on the special social problems. It is the familiar question of the application of a general principle. Experience has shown that general principles when divorced from specific data do not readily yield a solution. For instance, the greatest good for the greatest number is a noble principle, but it does not in and of itself tell us which is right, the "closed shop" or the "open shop." The general principle is a good tool, but it must be applied always with the closest consideration to the particular data. Thus Professor Ellwood's general analysis alone seems not sufficiently specific for so special a problem as the labor problem, as is seen in the following quotations.

"Let us take a more complex aspect of the social question—the labor problem. An externally perfect economic organization of society would not solve this problem, for if there were still individuals lacking good judgment and character there would still be exploitation of the weak by the strong" (p. 268). "If the laboring class would aim at the domination in their interest of the school system, rather than at the domination of the legal and industrial systems, they would more certainly insure the improvement of their social status and their domination of society as a whole," (p. 269). "The solution of the labor problem requires, therefore, like that of the social problem in general, the proper control of the three roots of character, heredity, social environment, and personal education, of all classes both employers and employees, nor is this beyond the scope of a practicable solution" (p. 270).

These solutions which flow from his general analyses seem rather remote, it is thought, to the first-hand practical student of labor problems as seen in factories, fields and mines. Such careful students would hardly welcome as most important and most practical the suggestion that the solution of the labor problem is to be found in the schools rather than in the organization of industry. Nor would they minimize the value of economic reorganization because some individuals are lacking in good judgment and character. General principles are of the greatest values of life, but they do not

provide a quick and ready solution of any particular problem. Such general principles are good tools for analysis, but each problem separately must be given full and careful consideration. All of which the author would no doubt assent to. However, it seems desirable to point out such a possible limitation to a general treatise on the social problem. The suggestions for wise action during the reconstruction period are somewhat general.

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Measure Your Mind. M. R. TRABUE and F. P. STOCKBRIDGE. New York: Doubleday, Page and Co. 1920. Pp. 349.

An excellent handbook, in popular style and very readable, but in thoroughgoing scientific fashion, for any one who wishes to use mental tests in practical situations, or who wishes simply to learn the essentials of mental measurement as a matter of liberal information. The authors deserve special credit for the way in which they have reduced matter that is consistently and scientifically sound throughout to popular and easily comprehended form. There is evident in the three hundred odd pages of this volume the work of the expert psychologist whose wide experience in the derivation of tests and their application to practical problems makes possible authoritative writing, and of the experienced editor who has learned how to put great scientific truths within the reach of the average reading public.

Only by raising the general understanding of the masses can we rid our civilization of such anomalies as the publishers of this very book present to its readers. On page 10 the authors quote Professor Terman: "In the underworld of pseudo-science . . . phrenology and kindred fakes survive. Hundreds of men and women still make their living by 'feeling bumps on the head,' reading character from lines of the hand, *etc.* . . ." Yet on the cover-wrapper in which the writer received the book the publishers prominently advertise a book which purports to teach *Reading Character by Sight* in seven easy lessons. I know not whether to condemn, sympathize with, or praise the publishers.

In the first five chapters we have an admirable exposition of the general nature of, the need for, and the application of mental measurements. A group of three chapters follows in which the authors give an able review of the application of tests to problems in three distinct fields of service: in the U. S. Army during the Great War, in education, and in industry. The next two chapters introduce the Mentimeter Tests and tell us how to use them.

The theory of the Mentimeter Tests is sound. There is no such

thing as a "general ability" which makes for efficiency in every job, and which can be measured by any one fixed test; not even general intelligence is to be thought of as requisite or desirable for every task. While most jobs in the present stage of civilization permit of a very rough classification on the basis of general intelligence, it is far more frequent that we need to measure a rather special and specific ability. In the great majority of cases, these specific abilities can not as yet be tested singly; our only recourse is to tap them with a number of likely tests, and by actual experiment fashion combinations which give the best empirical results. "Rather than present to the public a certain fixed and invariable group of eight or ten tests which are to be used wherever a measure of general intelligence is to be employed, . . . the present authors have chosen to present a wide variety of tests from which each reader may select those for his use which actually give the best results."

Thirty different tests are presented with complete and detailed directions for giving, for scoring, for interpreting which any reader may understand clearly. The hints given as to the best method for finding what tests and combinations of tests are best suited to the reader's purposes would have been greatly enriched by an adequate exposition of the method of partial correlations, which Professor Thorndike recommends for such purposes in the Introduction to Dr. Link's recent book, *Employment Psychology*. The importance of the regression equation for fashioning batteries of tests for the measurement of specific abilities can hardly be overestimated.

The book is closed with an excellent chapter on "Trade Tests or Tests of Skill," which completes its discussion of the industrial aspect of mental measurements. Appendices are added, the most important and valuable of which is undoubtedly the popular exposition of the "coefficient of coordination."

The book will have great value for industrial personnel managers, not only because of its sound authoritativeness, but also because of its readability. Nothing could furnish a better introduction to the general theory and detailed practise of mental measurement, especially to those interested in the application to industrial situations.

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JOURNALS AND NEW BOOKS

MIND. January, 1920. *The Concept of Mind-Energy* (pp. 1-10): H. WILDON CARR. — Bergson, in *Mind Energy*, has advanced a new concept that "... life is identical with reality and that conscious-

ness is identical with life. Now the great problem of the past has been to define the nature of consciousness, explain its genesis, and determine its relation to the external reality which conditions it. If we accept the new concept, the problem of the future is to explain the nature and genesis of unconsciousness." *The Relation between Induction and Probability* (Part II.) (pp. 11-45): C. D. BROAD.—Reaches the tentative conclusion that "all particular inductive arguments depend on probability and only lead to probable conclusions, *whatever* we may assume about nature. But *unless* we assume something about nature they give no finite probability to any law. . . . What we actually assume is that nature consists of a comparatively few kinds of permanent substances, that their changes are all subject to laws, and that the variety of nature is due to varying combinations of the few elementary substances." *On the Nature of Memory* (pp. 46-61): DOROTHY WRINCH.—". . . a memory act . . . is an image act and involves a feeling of familiarity . . . all memory acts involving beliefs involve at least one primitive belief. . . ." *Discussions. The Categories of Biological Science*: F. H. A. MARSHALL. *Idealism and the External World*: G. GALLOWAY. *The Notion of a General Will*: BERNARD BOSANQUET. *Negation in Traditional and Modern Logic*: R. C. LODGE. *Critical Notice*. L. T. Hobhouse, *The Metaphysical Theory of the State*: A. E. TAYLOR. *New Books*. C. E. M. JOAD, *Essays in Common-Sense Philosophy*: L. J. RUSSELL. Henry Sidgwick, *National and International Right and Wrong*: A. E. T. H. T. W. Hetherington and J. H. Muirhead, *Social Purpose*: C. C. J. W. Rev. T. J. Walshe, *The Principles of Christian Apologetics*: A. E. T. Theodore Flournoy, *Métaphysique et Psychologie*: F. C. S. SCHILLER. *Philosophical Periodicals. Note*. *What Does Bergson Mean by Pure Perception?* H. WILDON CARR.

PSYCHOLOGICAL BULLETIN. October, 1919. *Mathematical vs. Scientific Significance* (pp. 335-338): E. G. BORING.—It appears that the apparent inconsistency between scientific intuition and mathematical result is not due to the unreliability of professional opinion, but to the fact that scientific generalization is a broader question than mathematical description. In scientific work we deal with samples, whereas we are always interested in the larger groups of which the samples are intended to measure the difference between the particular samples observed. Whenever we can assume that these samples "truly" represent the total group, then the mathematical method also indicates the probability of a difference between the groups represented. *An Observation of the Purkinje Phenomenon in Sub-Tropical Moonlight* (pp. 338-339): STEPHEN G.

RICH.—The observation was made at East London, South Africa, July 12, 1919. *General Reviews and Summaries: Learning* (pp. 339–344): JOSEPHINE GLEASON.—Thirteen researches are reviewed. *Memory and Thought* (pp. 344–348): W. C. RUEDIGER.—Twelve researches including several French references are reviewed. *Special Reviews*: Perrett's *Phonetic Theory*, Pikler's *Konsonanz and Dissonanz*: R. M. OGDEN. Seashore's *Musical Talent*: H. G. BISHOP. Aall's *Filosofien*, Hug-Hellmuth's *Mental Life of the Child*: M. L. REYMERT. Richardson's *Anger*: H. N. GARDINER. Abramowski's *Subscient normale*, Geley's *Inscient*: A. P. WEISS. Coover's *Psychical Research*: R. M. OGDEN. Delgado's *Psicoanalysis*: D. W. FAYL.

Einstein, Albert. *Relativity: the Special and the General Theory*. (Translated by Robert W. Lawson.) New York: Henry Holt & Co. 1920. Pp. 168.

Hudson, Jay William. *The College and the New America*. New York: D. Appleton & Co. 1920. Pp. xi + 201. \$2.

Pagani, Silvio. *Programma di Bellagio: Discorso sul Methodo e Sull'Attuazione della Filosofia dell'Antivita*. Lugano, Switzerland: Casa editrice del *Cænobium*. 1920. Pp. 316. Lire 15.

Palcos, Albert. *El Genio: Ensayo sobre su genesis, sus factores biologicos, psicologicos y sociales y sus funciones en la especie y en la sociedad*. 1920. Buenos Aires: Cooperativa Editorial, "Buenos Aires." 1920. Pp. 348. \$3.

Rignano, Eugenio. *Psychologie du Raisonnement*. Paris: Felix Alcan. 1920. Pp. xi + 536. 15 francs.

Rouna, George. *El Desarrollo Fisico del Escolar Cubano sus Curvas Normales del Crecimiento*. Havana, Cuba: Casa Editorial Jorge Morlon. 1920. Pp. 133.

Semeria, Giovanni. *Lettere Pellegrine*. Milan: Societa Editrice "Vita e Pensiero." 1919. Pp. xi + 135. L. 5.

NOTES AND NEWS

THE editors gladly print the following note from Professor Creighton, who for so many years has been editor of the *Philosophical Review*. As he points out with documentary evidence, the JOURNAL was not started as a rival to the *Review*. The editors heartily confirm his statement that in the conduct of the two periodicals there has never existed any rivalry. On the contrary, there has existed the friendliest cooperation. Although the editors are not responsible for

opinions expressed by contributors, they acknowledge their mistake in allowing without comment the expression of an opinion to appear as the statement of an historical fact.

"In his survey of 'Modern Idealism' in the JOURNAL of September 23d, Professor Brightman sets it forth as an historical fact that this publication was founded in 1904 'as a rival to the essentially idealistic *Philosophical Review*.' Would it not be better in writing for the public to avoid such vain imaginings and loose characterizations? If Professor Brightman had read over the initial programme set for itself by the JOURNAL he would perhaps have been able to see in its establishment some other motive than 'rivalry to the idealistic *Review*.' At any rate, I have never been conscious of the rivalry, and neither, I think, have been the editors of the JOURNAL. The credit of the discovery is Mr. Brightman's. As to the 'essentially idealistic' *Review*, that may serve as an illustration of the dangerous facility which the careless use of labels induces. It is so easy to arrange things in accordance with the profound dichotomic principle—idealism on the one side, realism on the other, absolutism here, personalism there,—so long as one does not take the trouble to look up the facts.

"J. E. CREIGHTON."

MACMILLAN & Co., of London, have in press a volume entitled *Essays in Critical Realism: A Cooperative Study of the Problem of Knowledge*, by Durant Drake, A. O. Lovejoy, James B. Pratt, A. K. Rogers, George Santayana, R. W. Sellars and C. A. Strong. This book has been in preparation for three years, and presents a common view agreed to by the seven collaborators. The view, which is definitely realistic, differs considerably from that of *The New Realism*.

PROFESSOR HARRY DEXTER KITSON, of Indiana University, sends us the following note:

"An abstract of A. A. Brill, 'The Empathic Index and Personality,' *Medical Record*, January 24, 1920 (appearing in this JOURNAL, August 12, 1920), gives rise to a question regarding the use of 'empathic' as the adjectival form of empathy. This word, derived from $\epsilon\upsilon$ in $\pi\acute{\alpha}\theta\omicron\varsigma$, suffering, is quite evidently formed on the analogy of sympathy. Since the adjectival form of sympathy is sympathetic, we might reasonably conclude that the corresponding form of empathy is *empathetic*. Since the dictionaries are silent, the matter is respectfully referred to the Committee on Terminology of the American Psychological Association."

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

REALITY AS A TRANSIENT NOW

I

THE conception of reality as a transient now is a view of the nature of all being which, in various nuances, is not only widely prevalent to-day but is of venerable ancestry. Not to mention others, Heraclitus must have held to some form of this theory and we know that Descartes did. Indeed, he who deems such a view to be hardly more than an absurdity is astonished at the stalwart defenders it has had in the history of philosophy. And, although no one can be sure what some of the men I am about to enumerate mean by reality,¹ the notion that it is a transient now seems to me to be openly or implicitly expressed in writings of the following somewhat radically different contemporary thinkers—H. B. Alexander, A. N. Whitehead, Henri Bergson, John Dewey and William James. As a matter of fact, all advocates of “creative idealism” or “creative intelligence” would appear to be logically bound to espouse such a view, since for them reality is being wrought out in and together with time, and, not only is it possible to make a new and better world, but such a new creation is continually in process of consummation. Reality being what is essentially in the making, it can hardly be other than the content of a transient now.

In order that we may have this theory before us in its purest and most unadulterated form, let me quote three passages which seem to me to formulate it with glaring consistency. Dr. Whitehead writes: “The foundation of reverence is this perception, that the present holds within itself the complete sum of existence, backwards and forwards, that whole amplitude of time which is eternity.”² And

¹ Cf. Bradley, *Essays on Truth and Reality*. “Nothing, I am sure, can fully clear the issue except a definite statement by Professor Dewey as to what he means by reality” (p. 148, note). “For Professor James the series of events in time seems to be ultimately real and not a mere construction. If so, this series (it seems) is actually experienced, and, if so, I presume is experienced as present. . . . But the reader will, I think, seek help here from Professor James in vain, unless he can find it in what to me is some obvious conjuring with delusive terms such as ‘possible’ and ‘virtual’” (p. 150).

² *The Organization of Thought*, p. 28.

as befits even a presidential address delivered before an august philosophical association, Professor Alexander waxes most eloquent over this theory of reality as a transient now. "For consider—what is, what can be the height and depth and length and breadth of this our world if it be not from hour to hour the consummation and generation, death and birth, of its forms? The past is not, even so soon as it is named. The past is not; it is non-existent; it is nothing; not only irrecoverable but annihilate. The reality of the world—and I proclaim all science for my voucher—the reality of the world is just the sum of its possibilities at any instant: in the dead past there are no possibilities; the book is closed and the fates are departed. There is a dream which sometimes comes to us which is a true image of the world's reality. In that dream we are ascending a stair, leading on, on, up into the gloom; behind and below us, as each foot lifts to a new tread, the stair dissolves into nothingness, and behind us is only void and the abyss; before us, there are a few steps faintly illumined and many vaguely surmised, and no landing that we may guess; but we must climb onward with all our strength, for the stair, which is the world, is dissolving moment by moment beneath our feet and only in mounting is there life. That dream, I say, is an image of reality."³ And the purport of this somewhat more guarded statement of Bergson is evidently quite similar. "What duration is there existing outside us? The present only, or, if we prefer the expression, simultaneity. . . . We observe outside us at a given moment a whole system of simultaneous positions, of the simultaneities which have preceded them nothing remains. What is duration within us? A qualitative multiplicity, with no likeness to number; an organic evolution which is yet not an increasing quantity; a pure homogeneity within which there are no distinct qualities. In a word, the moments of inner duration are not external to one another."⁴

Now in interpreting these and other expressions of the view that reality is a transient now we must be on our guard against a misunderstanding. This is not the same as the theory that reality is an eternal now, which is frequently attributed to Spinoza and to other idealists. For reality as an eternal now clearly means that the whole temporal process is viewed *sub specie æternitatis*, that is to say, past, present and future are all included within a larger whole called reality. And the predicate eternal is attached to this larger

³ *Philosophical Review*, Vol. XXIX., p. 125 (March, 1920). The statement, "I proclaim all science for my voucher," seems strangely out of place after he has just attempted to discredit science as man-made—"its numbers are the ten digits of our hands, its measures are our palms and paces." See pp. 120 ff.

⁴ *Time and Free-will*, pp. 227 and 226. Note that I have reversed the order.

reality for the express purpose of indicating that it transcends the whole temporal process. Thus, in that sense of the word, now does not mean that part of the stream of process which is immediately present, but the whole of actual and conceivable reality, regarded as timeless being. But I interpret these writers to mean by now precisely what the word means in ordinary language—that part of the temporal process which follows the past and precedes the future. They seem to me definitely to state that this now of the temporal process holds within itself all of the past and all of the future, that now is the eternal reality rather than that reality is an eternal now. For them it can be said that each and every present moment is, while it lasts, the whole of reality. "*Der Augenblick ist Ewigkeit.*"

Hegel said that time is Kronos, begetting and devouring his children, but this view says that reality is Kronos, begetting and devouring his children. Hegel did not regard this as a true symbol of what reality is, but for these writers no better symbol could be chosen. Professor Alexander's dream of the dissolving stairway is no whit more appropriate. And if we need a third it is at hand in the mythical Phœnix, burning and rising from her ashes. The present instant is the burning and rising Phœnix and the Phœnix is reality. What is to be thought of such a theory?

II

In the first place, the question must be asked: "By what right is the now of the temporal process given preference as to its reality over the past and the future?" Professor Alexander says the past is dead, utterly annihilate, and perhaps there is a sense in which this is true. Yet there is also a sense in which it is true that the past is everything, and this aspect of the past is not accounted for in a view which allows everything to be swallowed up by the present instant. Far better would it be to stand in awe of all the past, regarding it as a mystery, as Charles Lamb did before that part of it we call antiquity, than to deny that it has any reality. "Antiquity, thou wondrous charm, what art thou, that being nothing art everything, and being everything art nothing?" Lamb somewhere asks. And he was right because he had recognized both aspects of the paradoxical nature of past time. That conception which says the past is everything is just as valid, just as philosophically defensible, as the one which says the past is nothing. For the past is the interpreter of the present, and, apart from a knowledge of its content, the language of the present can not be understood.

Much the same is true of the future. Here we must ask again: "By what right is the continuity of the present with the future cut,

so as to roll all of the future into the present under the vague term 'possibility'—'the present and its possibilities'?" The words of Lamb may be applied to the future as well as to the past. "Futurity, thou wondrous charm, what art thou, that being nothing, art everything, and being everything, art nothing?" How many millions of the human race live in the future rather than in the past or the present! How many *Millenniums*, *Utopias*, *New Atlantises* and *Leagues of Nations* has the human imagination not produced! Are these all airy nothingnesses? Admit that they are, and yet, every activity of modern civilized life is based upon the fact that many future facts are as real as present facts. Just as well as we know any present fact do we know what the essential conditions of human environment will be to-morrow, and we know this even though we ourselves may be dead. That is to say, we know that there will be air to breathe and food to eat and books to read to-morrow for all human beings who are living and able to eat or to read, and we know that there will be some human beings living to-morrow who can eat and read. If we do not know some future facts well enough to adjust ourselves to them, then the present, which seems so real, is not worth talking about. The reality of the future can not be compressed into the reality of the instant. That there will be an eclipse of the sun so many days hence is a reality as valid as the fact that the sun now exists, and yet it is a future reality, not a present reality. Or, to express it more accurately, it is a future reality over and above whatever reality it may have at the present moment.

However, there is no need of insisting upon the fact because the present instant is shot through and through with the same paradoxical character which we find in the past and the future, antiquity and futurity. It may be true that the present is everything, but it is also true that it is nothing. And any view which hangs it in nothingness, cut loose from its continuity with the past and the future, certainly makes it precisely nothing. Annihilate the past, and deny the reality of the future, and what have you left as the content of your supposed present instant? Nothing, absolutely nothing.

For what is this now, this present instant of which those who hold the theory of reality as a transient now speak so knowingly? When you look for it you can not find it, for it is gone forever into the dead past which is nothing. It does not even linger long enough to be known. And with it goes the would-be knower. He dies with his present. You can not take one member of an actual continuous series, and let that member swallow up the whole series without

either changing the meaning of your one member or involving yourself in an inextricable tangle. All the ridicule that has been heaped upon Mr. Bradley's separation of Appearance from Reality will not suffice to destroy the truth of his discussion of the atomic now in his *Principles of Logic*. For he there points out that "every now is resolvable into nows," and that "there is no part of the succession of events so small or so great that conceivably it might not appear as present."⁵ In other words, it is impossible to define now. It may be the whole temporal process or it may be an infinitesimal fragment of the complete succession of events. If it is taken to be the whole temporal process we are, willy-nilly, carried over to the conception of reality as an eternal now. If, on the other hand, it is taken as an infinitesimal fragment of that whole succession, we can not possibly equate it with reality without making our position ridiculous. Thus Dr. Whitehead, in trying to explain what he means by a duration, wavers between saying that it is the content of a specious present and that it is the whole life of an organism. But what the relation of a duration constituting the life of one organism is to the durations constituting the lives of other organisms, he does not pretend to say. But until he does we will never know what he means by saying that "the present instant holds within itself the complete sum of existence, backwards and forwards, that whole amplitude of time, which is eternity."⁶ Thus, owing to the ambiguity in the meaning of the word now, the theory of reality as a transient now involves a veritable labyrinth of difficulties.

III

A second objection to this view is to be found in the fact that it makes altogether impossible that progressive advance of reality upon which it emphatically insists. Dr. Whitehead refers to the "creative advance of nature," and Professor Alexander speaks of climbing onward with all our strength," since "only in mounting is there life." In truth, the idea that reality is advancing or moving forward or becoming better is inseparably connected with this theory. Yet, if it is a transient now, how is this possible or even conceivable? How can one now be regarded as any more advanced than any other, since all alike perish? Indeed, how can there be a creative advance of nature, if "the present holds within itself the complete sum of existence, backwards and forwards"? Make the present instant everything and progress of any kind becomes absolutely impossible—an utter absurdity.

⁵ Pp. 52 and 53.

⁶ See *Enquiry concerning the Principles of Natural Knowledge*, pp. 78, 81 and 82. For a fuller discussion of this point see Section IV., *infra*.

For, supposing that now means the complete whole of events happening in the universe at a given instant, then there is an infinite variety of events in every now, some of which may represent an advance over the events which they supersede, but some of which will also represent a regression. At every moment there are events as widely different as death, birth, thievery, charity, fighting, praying, eating, starving, *etc.*, *ad infinitum*, simultaneous with one another in the now which is reality. If one man is happy over the birth of a son, another is sorrow-stricken over the loss of a daughter. If one man is young and supple, another has reached senility. If one is being rewarded for an act of heroism, another is being electrocuted for murder. If one institution has the vitality to render genuine public service, another has become so encrusted with superstition as to be a detriment to society. Where, then, is the advance, and how can it be measured or estimated? This very now, and every now, is shot through and through with every variety of deed imaginable. How, then, can it show an advance over another now which was undoubtedly fully as diverse in content? Is it because this now is actual whereas that is dead? But in the next moment this one will be as dead as its neighbor, and another will inherit its potency. Well, then, is it, perhaps, more real because it has more past behind it? Yes, but the past is utterly annihilate. Besides, if every now holds within itself both the past and the future, it is simply inconceivable that any now can be more advanced than another. For every now stands by itself, or, as Bergson says, there is nothing external to it. And if there is none other save only it, how can it be an advance? Being *sui generis*, nothing can be said about its advancement.

The fact of the matter is that progress is impossible, creative advance is impossible, apart from a definite and permanent goal. How can there be an advance unless there is a fixed and immutable reality in the direction of which the whole process is moving? How do we know that the stairs we are climbing lead ever higher? They lead into the gloom, says Professor Alexander. And what, pray tell, is this gloom which envelops the reality of the present instant which was said to be all that there is? But, to return to the stairs, may it not be that we keep treading the same step? Or may we not be going around in a circle? The quaint theory of the Stoics, that there is a great central fire from which the temporal process evolves and into which it reinvolves, may be a truer idea of what is taking place than we realize. That is to say, for all we know the temporal process may be cyclical. Science tells us that some heavenly bodies are too old for life and that others are too young.

It is entirely probable that the old ones finally break up, and become redistributed and reorganized into new ones. That this should be true does not seem to be at all unreasonable. On the contrary, it is in full accord with the law of the conservation of energy. But, in that case, the temporal process could in no sense of the word be said to lead forward. No now could possibly represent an advance over another because at every moment, if the whole universe is taken into consideration as befits a complete philosophical view, *every conceivable stage of development would be represented.*

IV

It might be thought that such a difficulty as I have just pointed out could be avoided by denying that now means that which is constituted by the interpenetration of all simultaneous events in the universe. But then we would fall into another imbroglio which many expressions of this view undoubtedly fail to avoid. For the only other alternative that I can see, on the basis of this theory, is to do what these writers appear to do, namely equate now with the specious present of the stream of perceptual experience. Outer duration is nothing, according to Bergson, but inner duration is "a wholly qualitative multiplicity, an absolute heterogeneity of elements which pass over into one another."⁷ This distinction between an inner duration and an outer duration shows the trend of this theory towards subjectivism. When will philosophers learn that we can not judge the universe to be the content of what we or anyone else experiences as a duration (specious present)? The only being who could have an experience of an inner duration, or who could be an inner duration which is the whole of reality at the present instant, would be an Absolute. On this point Royce was undoubtedly right against James, but such a view leads you straight to the theory of reality as an eternal now. And we have already seen that this is far away from the theory of reality as a transient now.

Although all of these writers repudiate subjective idealism and would attempt to wriggle out of the "Berkeleyan dilemma,"⁸ it is

⁷ *Loc. cit.*, p. 229. See, also, Whitehead's *Enquiry*, p. 83.

⁸ Naturally every modern writer will claim to avoid solipsism or subjective idealism. For instance, see Whitehead's *Enquiry*, pp. 8 ff. But despite any claim a writer may make the question of fact remains. That is to say, a claim to avoid it must be made good, and not all who make the claim are able to make it good. I want to show that the theory of the now as a part of the perceptual stream, namely the specious present, is inextricably interwoven with solipsism. My argument may, perhaps, be strengthened by the following observation. Dr. Whitehead says: "A duration is essentially related to one space-time system, and thus omits those aspects of the passage (of nature) which finds expression in other space-time systems" (*Enquiry*, p. 80 f.). But he does not tell us how,

nevertheless true that the theory of reality as a transient now is based upon subjectivism. *In fact, it is simply a modernized form of Humian idealism, and it can not escape the absurdities of that view.* For, if now means a part of a single perceptual stream, namely a specious present, there is no way of establishing the existence of a stream of nature such as Dr. Whitehead's theory of "the passage of nature" or "the creative advance of nature," and Bergson's *élan vital* demand. The only way to get it is to assume it. Nowhere do I find advocates of this theory dealing fairly with this fundamental issue. What the relation of my now to the now of other streams of percipience is they do not pretend to explain. They are not even entitled to talk about any other stream than their own. My own life is "my inner duration," but whether there are any other "inner durations" than mine I can never know. Even if we grant Bergson's contention that my previous inner durations interpenetrate my present one, and say that my present contains also my future inner durations, we can not show the relation of my present inner duration to those of other perceptual streams.

I am open to conviction on this point, but so far as I am able to understand them, these thinkers have not advanced one step beyond the classical position of British Empiricism on the question of other minds than their own. This traditional view is admirably stated in Tyndal's famous essay entitled, "The Scientific Use of the Imagination." He there writes: "You believe that in society you are surrounded by reasonable beings like yourself. You are, perhaps, as firmly convinced of this as of anything. What is your warrant for this conviction? Simply and solely this: your fellow-creatures behave as if they were reasonable; the hypothesis, for it is nothing more, accounts for the facts. . . . Beyond the *as if* you can not go."⁹ For it should be expressly noted that Tyndall here assumes that there are fellow-creatures forming society, as well as that they are reasonable. Strictly speaking, this, too, is for him nothing more than an hypothesis. But Dr. Whitehead, for example, is in the same position. Indeed, in different language he actually expresses precisely this view. "There are distinct streams of perception corresponding to diverse percipients." This is sheer assumption on a level with Tyndall's assumption of fellow-creatures. "The same nature and the same events are apprehended by diverse percipients; at least, what they apprehend is as though it were the same for all." Here we get Tyndall's *as if* in the words *as though*. As was pointed out if a duration is essentially related to one space-time system, we can know that there are other space-time systems. Each observant mind has its own space-time system, he says. How, then, does it know that there is any other?

⁹ *Fragments of Science*, Vol. II., pp. 107 f.

out at the end of section two, Dr. Whitehead does not get across from the duration of his own stream of perception to that of another save by the method of assumption. Nor, so far as I am able to judge, do any of these writers.¹⁰

The attempt to find a standing-place of certainty on the rock of the now in the stream of time is utterly futile. For when you get there you find that you are standing on emptiness in an ocean of nothingness. The only reasonable procedure is to abandon the attempt, and seek elsewhere for certainty. What can not be found within the stream of time may be found in an all-enveloping Eternal Reality.

IV

As to what the stream of time as a whole is, I hardly dare venture a suggestion. I would rather say I do not know. For St. Augustine was probably right when, after prolonged and arduous thought about the nature of time, he cried out: "If you do not ask me what time is I know, but if you ask me I do not know." In truth, my study of philosophical discussions of this perennial theme leads me to the belief that all philosophers are in the same boat with St. Augustine. It is wholesome and refreshing to find Professor Mackenzie saying essentially the same thing in different language. "The general problem of time seems to me to be the most difficult in the whole range of philosophy, and I can hardly expect that my method of dealing with it will commend itself to many minds."¹¹

This emboldens me to take a guess in the hope that it may be thought to be as good a guess as any. So far as time in general is concerned, my guess is that it is essentially nothing but the hypostatization of a word, or, at least, an abstraction that goes near to being a fiction. The content of time is reality, and when that content is abstracted away there is nothing left which can be called time. Time resolves under reflection into relations between the parts of abiding and eternal realities. Every now is such a relation, ephemeral, and, when taken by itself, practically nothing. The reality to which it is attached, the "objective significant structure," as it has been well named by Professor Adams,¹² is the fundamental entity with which philosophy is concerned. And this objective significant structure includes many nows, just as it includes many yesterdays and many to-morrows.

Immerse yourself in the temporal process, or in any part of it,

¹⁰ The quotations are from the *Enquiry*, p. 78.

¹¹ *Elements of Constructive Philosophy*, p. 2. I quote the passage from St. Augustine from memory.

¹² See his admirable "Idealism and the Modern Age."

in the hope of finding out what reality is, and your experience will be like that of the great poet-philosopher, Shelley.

Unfathomable Sea! whose waves are years,
 Ocean of Time, whose waters of deep woe
 Are brackish with the salt of human tears!
 Thou shoreless flood, which in thy ebb and flow
 Claspest the limits of mortality!
 And sick of prey, yet howling on for more,
 Vomitest thy wrecks on its inhospitable shore;
 Treacherous in calm, and terrible in storm,
 Who shall put forth on thee,
 Unfathomable Sea?

Yes, time is an unfathomable sea, treacherous in calm and terrible in storm, to those who put forth upon it in quest of reality. But he who turns his back on this ocean of time and searches for reality in the land of thought, which is its true home, will find the "modest creed" of this same poet-philosopher substantially true.

It is a modest creed, and yet
 Pleasant if one considers it,
 To own that death itself must be,
 Like all the rest, a mockery.

That garden sweet, that lady fair
 And all sweet shapes and odors there
 In truth have never passed away:
 'Tis we, 'tis ours, are changed; not they.

I know not what others may think and I claim to speak only for myself when I say that we have here, in Shelley's marvelous poem entitled "The Sensitive Plant," a far, far truer "image of reality" than Professor Alexander's dissolving stairs, which leads, as he admits, into the gloom.

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THE SCOPE AND GENESIS OF COMPARATIVE PSYCHOLOGY

I

COMPARATIVE psychology, like its mother science, has had a long past and a short history. In fact it is doubtful whether it has had any history. There is no department or field in psychology which has been changing color, all the time since its inception, as much as comparative psychology.

While general psychology has recently been the recipient of many

aspersions on the ground that its definition is not universally accepted, its offshoot has had the much greater disadvantage of not even being generally discussed. Investigators writing on topics as wide apart from one another as zoology and philology seemed each to be certain that their sphere of investigation was none other than comparative psychology. A state of affairs in which the definition of a science is a mooted point denotes a higher stage of advancement than the case where definitions are taken for granted without the slightest attempt at orientation.

The great divergence in the subject-matter of comparative psychology is of course to some extent justified in virtue of the latitude of its scope. The objection, however, is to be directed against the identification of a part with the whole of the field and against the practise of including a subject under the category of comparative psychology simply because it *permits of comparison* with another subject, though the *point of view* from which that particular problem has been approached *does not happen to be a comparative one*.

In a very broad sense all science, and every field of a science, is comparative, inasmuch as every fact is related to some other fact. Every classification involves comparison. Especially is this true of general phenomena running through several different departments in diverse forms and guises. Thus inhibition or adaptation may be studied comparatively not only in the different species but in the different senses of man alone. Forel's casual remark that even human psychology is and must be a comparative psychology,¹ though apparently uttered by the author only in a zealous mood, could be taken more seriously were we not deterred by the vastness of the scope.

It is of course beyond question that such a broad view of comparative psychology would render it not only unwieldy but also insignificant. The delimitation of the whole field so that the essential significance of the term *comparative* is brought into relief thus becomes an imperative necessity.

The first reference book to consult in that regard would naturally be the *Dictionary of Philosophy and Psychology*. The information obtained therein reveals two usages: a proper usage and a common usage. "The department of psychology which proceeds by the comparison of the minds of different animal forms. It properly includes

¹ A. Forel: "Die Berechtigung der Vergleichenden Psychologie," etc. *Journal f. Psych. und Neurol.*, Vol. 1, 1902, pp. 3-10. "Somit sehen wir dass bereits die menschliche Psychologie eine vergleichende Psychologie ist und sein muss."

As a matter of fact, Forel, like most other psychologists both prior and subsequent to him, understands by the term comparative psychology ("in the strict sense") nothing more than animal psychology.

man as compared with the lower animals although as commonly used it is synonymous with animal psychology."²

The first conscious approach to the study of comparative psychology in English appears to be that of Romanes who regarded his field as the analogue of comparative anatomy, "for just as the latter aims at a scientific comparison of the bodily structures of organisms, so the former aims at a similar comparison of their mental structures."³

This parallelism might have been acceptable were it not for the fact that psychology has not only a *genetic* dimension, but a *collective* dimension as well. The parallelism between a bi-dimensional science like anatomy and a tri-dimensional science, such as is psychology, can, therefore, no more hold than that between, say, physics and biology. In his *Mental Evolution in Man*, Romanes has shown himself to be a comparative psychologist in the broad sense which his successors have lost sight of, but in so doing he has unwittingly strayed away from his previously established parallelism.

His younger contemporary, Lloyd Morgan, writing in 1894, tells us that discussing the "relation of the psychology of man to that of the higher animals"⁴ is the central object of an introduction to comparative psychology. But the pioneer of comparative psychology on this continent, Wesley Mills, in an address before the Association for the Study of Comparative Psychology at Montreal as early as 1887, identified comparative psychology with "all that pertains to the mind or soul of the animal kingdom."⁵

More recent writers both abroad and in this country have indeed been employing the terms animal psychology and comparative psychology interchangeably.

Yerkes alone, of all the psychologists, clearly perceived that it was unfair as well as unscientific to cut a chip and then proclaim that the block was hewn. The difficulty of referring to some one unitary thing which would justify the name comparative psychology was apparently constantly before him, as evidenced by the explanations in footnotes and digressions in the texts of articles as to the meaning of comparative psychology. The following footnote taken from a critical digest of the progress in comparative psychology is characteristic of the status obtaining in that field. "I use 'Comparative Psychology' in this connection in the commonly accepted sense of the psychology of all organisms excepting man. It seems to me desirable, however, that it should designate a method of investi-

² S. v. Comparative Psychology.

³ J. G. Romanes: *Mental Evolution in Animals*, p. 5.

⁴ C. Lloyd Morgan: *Introduction to Comparative Psychology*, p. ix.

⁵ Wesley Mills: *Animal Intelligence*, p. 17.

gation rather than a division of the field of psychology, and that the expression 'Animal Psychology' as contrasted with 'Human Psychology' should designate that portion of the materials of the science which is usually known as Comparative Psychology."⁶

Five years later, however, Yerkes is not content with making explanatory or apologetic observations. In a short article which probably was prompted by his investigations at the Boston Psychopathic Hospital and increasing interest in abnormal psychology, he vigorously decries the practise of identifying comparative psychology and animal psychology. So far as the writer has been able to make out, it was the first call to his colleagues admonishing them to call a thing by its right name. To quote him, "This note on definitions is written with the hope that it may help to carry into oblivion the use of comparative psychology as synonymous with 'animal psychology,' and bring about the substitution of the natural, logical usage which the terms comparative and psychology, when linked, suggest." It is needless to say that Yerkes's voice remained a *vox clamantis in deserto* in certain quarters, although fortunately the exigency of classification and compilation amidst the confusing terminology is tending to make cataloguers and compilers more circumspect as to captions or rubrics; and animal psychologists or behaviorists will on that account find themselves almost constrained to employ the term "comparative psychology" more sparingly when they mean "animal behavior" or "animal psychology."

Sometimes it would seem (and this looks like an interesting observation on the psychology of psychologists) that the former term has been adopted as an elegant screen or euphemism for the latter. There is certainly a more refined atmosphere about a comparative study than about an animal study. The former gives an air of breadth and extensiveness which does not at all attach to the latter.

The tendency to deck out animal psychology with the more attractive subtitle is not prevalent in such works as Watson's and Washburn's alone, but dates as far back as 1877 when Schneider gives us as the descriptive title of his brochure *Die Unterscheidung* the further subheading *Vergleichend Psychologische Untersuchungen*. In the same year appeared the important work of Espinas on animal societies under the subtitle of *Etude de psychologie comparée*. In justice to Schneider and Espinas, however, it must be said that there is more ground for calling a broad animal investigation a study in

⁶ R. M. Yerkes: "Recent Progress and Present Tendencies in Comparative Psychology," *Journal of Abnormal Psychology*, 1908, Vol. II., p. 271.

⁷ R. M. Yerkes: "Comparative Psychology: A Question of Definitions." This JOURNAL, 1913, Vol. X., p. 581.

comparative psychology than for labeling a text-book or outline of animal behavior "Text-book of Comparative Psychology."

That the binary nomenclature in vogue among animal psychologists was not subserving a useful purpose may be inferred from the substitution of the heading "animal behavior" for the older one of comparative psychology in the Psychological Index of 1911. Since its inception in 1894, the caption in the Psychological Index has been *comparative psychology*. Apparently the editors of this compilation did not realize that between the alternative of classifying a misnomer and eliminating it entirely, as they have been doing, there was a third possibility—that of breaking up the identification of two different though allied subjects and treating them separately, as Köhler has done in the bibliography of the *Zeitschrift für Psychologie* prior to its coming under the influence of the Psychological Index.

II

In our endeavor to demarcate the scope of a concept, two roads are open to us; and both enjoy the prestige that goes with time-honored procedures pursued by philosophers since the days of antiquity. *The Socratic method* of establishing the connotation of a concept by examining numerous instances and gradually eliminating all but a few which may be said to carry the essential characteristics of the concept, is scarcely satisfactory in our present issue, considering the colossal magnitude of our task. Besides, we all know what the words "comparison" and "comparative" mean. What our quest should be is rather to restrict its meaning in a technical sense, so as to serve a scientific purpose. In this respect, that is to say in its negative aspect, the Socratic method, as employed in the Platonic dialogues, proves to be a valuable asset in that it helps to keep in abeyance the too liberal as well as the too close attitudes taken towards a given term. From this angle we may turn to animal psychologists and inquire of them whether the comparison of different levels of human intelligence (normal as well as abnormal, supernormal and subnormal, amented and demented) may not with equal right fall under the rubric of comparative psychology. Likewise, may it not be conceded on the part of animal psychologists that the comparative description of various racial characteristics constitutes a substantial part of the field of comparative psychology proper now wholly appropriated by investigators of infra-human behavior? Certainly it is incumbent upon the latter to produce the writ upon which they base their exclusive claim.

The second mode of procedure (psychogenetic), that of following

up the usage of a term in a historical light, bears the impress of Aristotle and counts Locke among its sponsors. Is animal behavior coincident with comparative psychology as revealed by this test? One might suppose that the term comparative psychology originated in a biological or zoological atmosphere. Judging from its present surroundings we should have thought comparative psychology to be a soul-mate of comparative anatomy, a term which was employed in English as early as 1676.⁸ Yet its antecedents may just as likely have been philological or anthropological in character; and it would be interesting to know whether or not the growth of the Darwinian theory had been responsible for the shift of emphasis. Schneider, both in his articles in the *Vierteljahresschrift für wissenschaftliche Philosophie* and his larger investigations, had done a great deal to popularize the term and assign to it a biological setting. But the designation was apparently in vogue over fifty years ago, and from its usage then one would get the notion that comparative psychology was most closely affiliated with *Völkerpsychologie* and not at all with animal psychology. Thus Bastian writing on comparative psychology in 1868⁹ does not mention the possibility of including under that heading the study of animal psychology. He simply takes it for granted that comparative psychology is the study of different groups of men and their cultural products.

The first reference to comparative psychology I was able to discover in English was again in connection with anthropology rather than anatomy; and it was Herbert Spencer who wrote the article—by the way the very first article in *Mind*—in which he proposes the establishment of a new field of science dealing with the *Comparative Psychology of Man*.¹⁰ This field was to be divided up into three classes which, from our more modern point of view, are scarcely

⁸ *The Comparative Anatomy of Stomachs and Guts*, "Being Several Lectures Read before the Royal Society in the year 1676 by Nehemiah Grew, M.D., Fellow of the Royal Society and of the Colledge of Physitians," London, 1681. This early use of the term comparative in conjunction with anatomy certainly tends to disprove the conjecture made by C. Read (*British Journal of Psychology*, Vol. VI., p. 45) that the concept of comparative science first appeared in connection with philology, thence it was taken over into anatomy. The circumstance further leads us to doubt his further thesis which postulates the belief in the continuity of descent before science could be treated comparatively. We may safely assume that Nehemiah Grew had no inkling of the modern principle of evolution.

⁹ A. Bastian: "Zur vergleichenden Psychologie," *Zeitschrift für Völkerpsychologie und Sprachwissenschaft*, Vol. V., pp. 152-180. See also his *Beiträge zur vergleichenden Psychologie*, which is wholly an ethnographic study.

¹⁰ H. Spencer: "The Comparative Psychology of Man," *Mind*, 1876, Vol. 1, pp. 7-8.

adequately defined, but which might roughly correspond to (a) anthropological data ("degrees of mental evolution of different human types"), (b) sex differences, and (c) individual and ethnic differences.

Spencer's article of course does not remove the possibility that he recognized the existence of a comparative psychology of animals as well, but at any rate we may be quite certain that comparative psychology fifty years ago was not attached to the same moorings that hold it to-day; and furthermore it is not likely to have sprung up under the lead of comparative anatomy. Just at what time the term was torn away from its old moorings and began to be associated with the activities of the naturalist is a problem not easily solved. At the same time we should be disinclined in this connection to accept Dr. Yerkes's statement that "*accidentally rather than by the deliberate intent of any psychologist or group of psychologists*, the term comparative psychology has come to mean the study of mind in organisms other than man."¹¹

While we may fail to trace the actual process of the transition, we need not necessarily declare our ignorance of the causes that led to the change. One of the contributory factors in bringing about the present status of comparative psychology seems to have been the steady rise of the natural sciences since the promulgation of the evolutionistic doctrine. The popularity of comparative anatomy, coupled with the fact that the anthropological and collective phases of psychology were beginning temporarily to decline, was naturally influential in wresting comparative psychology as a term from its old setting, but the actual motive force in that regard was the zeal of animal psychologists, whose pretensions to the broadest possible endeavors in their chosen science rendered them oblivious to the fact that the study of man and men of all stages, levels and ranges was at least an important item in our account.

III

Of late there has been a growing tendency to talk of comparative psychology as a method. This usage has been especially urged by Yerkes and Carveth Read. The former points out that the adjective comparative refers rather to the method of a science than to its materials, as attested by comparative anatomy, embryology, pathology, and physiology.¹² The latter declares almost *ex cathedra* that "Com-

¹¹ R. M. Yerkes: "Comparative Psychology: A Question of Definitions," this JOURNAL, 1913, Vol. X., p. 580 (italics not in original).

¹² R. M. Yerkes: *loc. cit.*

parative Psychology is merely Psychology treated by the Comparative Method."¹³

This view is of course a tenable one, but it hardly tells the whole story. Against Yerkes's arguments it may be urged that the status of comparative anatomy or embryology is confronted with just about the same problem as that of comparative psychology, so that the attempt to establish the case of the one on the basis of the other constitutes a flagrant *petitio principii*. Moreover, there are a number of other comparative sciences which should enter into our consideration before mapping out the boundaries. Psychology, which has often suffered restrictions at the hands of the more exact sciences, can well afford to adopt a more latitudinarian position towards such branches as comparative literature, comparative religion, comparative mythology, *etc.*, where the materials are indubitably important *per se*.

Sciences have been subdivided into branches and fields for the sake of convenience. Now if it is granted that comparative psychology is merely a method, then we might as well do away with experimental, genetic, and applied psychology as fields. If we continue to regard experimental psychology as a division rather than a method, there is no reason why we should not accord the same treatment to the subject at issue. In the colorless denomination "method," comparative psychology is bound to lose its identity in a hazy mist, partly for the reason that the term method has been employed in a number of different connections. Systems of philosophy have been referred to as methods by their originators; but while it is true that every particular brand of philosophy or art requires a definite approach in order to be reached, it is not as a rule the avenue of approach that the system or school is remembered by but its conclusions or results.

At the root of the new suggestion proposed by Yerkes and Read is probably the circumstance of the vastness and comprehensiveness of such a branch as comparative psychology. Though not expressed by either of them, their objection may be to the effect that the innumerable details of comparison would become too cumbersome for any one man to cope with and that the whole field could never be explored. It may be supposed then that if the comparative psychologist should tackle the whole sphere which rightly is his domain, his plight would be a helpless one; while if he narrows himself down to one department, such as animal or group psychology, he thereby forfeits his comprehensive position—and naturally in either case no room is left for the field of comparative psychology.

¹³ Carveth Read: "The Comparative Method in Psychology," *British Journal of Psychology*, 1913-14, Vol. VI., p. 44.

Happily, however, as in most of the dilemmas, the two courses mentioned by no means exhaust all the possibilities. Just as comparative literature does not impose upon its student the requirement of becoming conversant with every story and essay that has appeared in any language, but merely necessitates an acquaintance with the main types and schools of universal literature, so the comparative psychologist is not called upon to study in detail all the genera and species of the race, and then the intelligence levels and group traits of human society, but is expected to take up the results of special investigators in the different departments of psychology *with a view to formulating some general laws or observations which are necessarily beyond the scope of the restricted investigator.*

In this way the comparative psychologist assumes the rôle of an interpreter after sifting and colligating the mass of data furnished by the special investigators. The distinctive feature of comparative psychology, it should be borne in mind, is *comprehensiveness*. *It is not a special field, but the entire province of psychology covered in a special way.* The comparative psychologist, properly speaking, is to cover the *whole* territory though not all of it. Selection of the resting or dwelling spots would have to play the most important part in his movements.

For this reason, the comparative study of the behavior of two species of birds or mice would in itself not fall under the rubric of comparative psychology. On the other hand, the establishment or disproof of the recapitulation theory on the evidence gained from a survey of different classes of minds brings the subject within the most comprehensive realm. Not all the untiring efforts and zeal of Fabre and the Peckhams would entitle them to the place occupied by men who have availed themselves of the indefatigable labors of these as well as other investigators, including naturalists, psychopathologists and sociologists, not to mention psychologists of every class and order. In drawing his generalizations from the individual reports and observations of field workers, he resembles the philosopher, though his task is both more circumscribed and less speculative. In fact his conclusions in themselves are to serve as a link in the chain which is in the process of being forged by the philosopher.

We are thus brought to realize that the dropping of comparative psychology from a comprehensive classification of psychological branches, as the editors of the Psychological Index have seen fit to do, is a gratuitous step which lays itself open to just as much criticism as the original lumping of all researches in animal behavior under the head of comparative psychology.

A. A. ROBACK.

BEHAVIORISM AND INDIRECT RESPONSES.

AS if it were not enough that psychology should have lost first its soul and then its mind, the newest type of psychology—behaviorism—has come into the world unencumbered with even the least vestige of consciousness, and is wholly mechanical (mechanistic) in all that it does. It reminds one of a certain ethical theory of “automatic self-direction” which advocates a kind of thoughtless, mechanical morality as the ultimate ideal and goal for practical conduct. (Clark: *The Christian Method of Ethics*, p. 33.) Behaviorism of the type formulated by Professor J. B. Watson takes the ground “that imaginal thought needed no new principles of explanation and required no different interpretation in behavior from that of other habits; and that if behavior could adequately treat of the overt bodily organization, it could, by the same principle, just as adequately treat of the thought processes.” (Watson: *Behavior*, pp. 324-5.) According to this theory thought is implicit behavior. “In other words, when we study implicit bodily processes we are studying thought.” (Watson: *Psychology*, p. 326.) “Where explicit behavior is delayed (i.e., where deliberation ensues), the intervening time between stimulus and response is given over to implicit behavior (to ‘thought processes’).” (*Behavior*, p. 19). Thus Watson substitutes “for what it (image, imagery, thought) is supposed to do, a mechanism which is exactly in line with what we have found to exist everywhere else, viz., an enormously developed system of language habits. From this point of view, all organization, no matter what its character, shows directly for what it is worth in the appropriate muscles.” (*Behavior*, p. 324, italics mine.)

Now a language habit, in this view, is a vocal or other habitual reaction which through association with previously formed appropriate habits has come by frequency of repetition to be *substitutable* for these latter. “Vocal habits do not become language habits until they become associated with appropriate bodily habits, and even substitutable for these acts.” (*Behavior*, p. 329.) When in a child’s experience a word is learned, it finally is uttered *without* the appropriate associated movement or movements. (Cf. *Behavior*, p. 330.) “Furthermore, as language habits become more and more complex behavior takes on refinement: short cuts are formed, and finally, words come to be, on occasion, substituted for acts.” (*Behavior*, p. 19.) “The putting on of conventional speech habits is thus an illustration of conditioned reflex level of functioning (vocal habit) plus later associative connection of the word when learned

with the bodily habits connected with the object for which the word *stands* (true language habits)." (*Psychology*, p. 320. Italics mine.)

Coming now to the application and testing of this theory in experience, I might say: If my *thought* of a box is an implicit language reaction associated with, and substituted or at least substitutable for, other body reactions of mine to that box, or to some other box, but no box now being present, then my thought of a box is an indirect reaction to *some* box. (It might prove a very interesting task to try to determine just exactly *what* box.) How can Professor Watson explain such reactions as this, which seems truly enough to be reactions to objects not at the time stimulating any receptor organ? "Neural activity begins always in a receptor," he says. (*Behavior*, p. 333, note.) To take a more specific example of experience, when I am *reminded*—and there is another word which, if the behaviorists gain the day, will have to go to the dump-heap—of my baby girl, who is at present several hundred miles from me, and has been for a month, I have a tendency to make the same reactions as I should make, and often have made, upon having her come within my field of vision. The reactions which I now make incipiently (implicitly), or even explicitly, it may be, are reactions to what I, as an orthodox psychologist, have been calling a *mental image* (of the child) with its various motor expressive concomitants. According to Professor Watson I should have to begin calling this stimulus not a mental image but another muscular (or glandular) reaction, acting as stimulus for the present reaction. This stimulating reaction was largely a complex of implicit language and other movements, and they are now functioning as *substitutes* for still other possible explicit body movements, or certain such movements made by me in the past (we wonder, which?), in response to the child directly. The stimulating reactions differ from these latter body reactions to the actual child in that they are *highly integrated abbreviations or short-circuitings* of them. "If we examine the bodily habits of any child just prior to the beginning of true language habits, we find that it can respond appropriately to hundreds of objects and situations, for example, to its doll, bottle, blocks, rattle and many other things. Its environment is becoming complex. Abbreviated and short-circuited actions become a necessity if it is to hold its own in that environment and make progress." (*Psychology*, p. 319.) "The same thing undoubtedly takes place in silent talking or thinking. Even if we could roll out the implicit processes and record them on a sensitive plate or phonograph cylinder it is possible that they would be so abbreviated, short-circuited and economized that

they would be unrecognizable unless their formation had been watched from the transition point where they are complete and social in character, to their final stage where they will serve for individual but not for social adjustments." (*Psychology*, pp. 324-5.) "All of the recent work shows that these [speech habits] reach enormous complexity in a comparatively short time." (*Behavior*, p. 19.) "Observation shows that we have even short-circuited (substituted for) the word system of thought. We find a somewhat highly involved system of language habits which, strange to say, while formed (as we believe) after vocal language habits, have their locus in the general bodily musculature such, *e.g.*, as the nod of the yes or no, closing the lids slowly for yes, winking, which expresses a whole series of words, the shrug of the shoulders, and bodily sets and attitudes. These movements are often spoken of as mimetic. But the fact is they have nothing at all to do with thought, until by a process of substitution such as we have already described they come to function as do words." (*Behavior*, pp. 332-3.)

But the crucial question here is: How comes it that one reaction can be *substituted for another*, of which it is at the same time an abbreviation? And is it always a matter so simple and mechanical, as abbreviation, and substitution in a mechanical sense? Just what is contained in these concepts of substitution and abbreviation? We strongly suspect that by way of the very subtleties and refinements of the language process which he is trying to explain, Professor Watson is guilty unawares of smuggling into behavior categories which by hypothesis have been forever outlawed. He says this substitution is a mechanical process. (*cf. Behavior*, p. 330.) But what causes it to happen, and just what is the specific nature of the process? Is it not just possible that Professor Watson has simply highly abbreviated what is essentially consciousness after all, and packed it up in this microscopic nut-shell of "complex and refined organization," or "integrated abbreviation," and that he deceives himself in thinking that he is now forever rid of the "conscious" bugaboo just because he has been able, as he thinks, to squeeze it into such tenuous, behavioristic, objective, quasi-nothingness? Substitutability is such a homeopathic dose of the "conscious" or "psychic" that even a Watson could swallow it without knowing that he had taken anything. For substitution is a psychic category: it is based on the notion of purpose or end. To say that one reaction is *substituted for* another is all of a piece with saying that the one *answers the purpose of* the other. Now whose purpose is this? And what is a purpose? A purpose is more than a muscular set, more than an implicit muscular or glandular reaction. The life of the animals is full of muscular sets, but not of purposes,

even according to Watson. Nor will it help us out to say in lieu of "Reaction B^2 answers the purpose of reaction B' " that "Reaction B^2 *does the work of reaction B'* ." For what work does a reaction do, aside from *being* a reaction and taking its own place in the total causal chain of reactions? In such a sense as this it would be utterly impossible for any reaction to do the work of another. Or, suppose we say the substitutability of a language reaction for another body reaction—"a mechanical process"—means that the former reaction adapts or relates the organism to the object in question in a way *similar* to the way in which the latter reaction relates or adapts it. For example, the implicit reaction of eating pie (*i.e.*, the thought of eating pie) relates a boy to a piece of pie in a way *similar* to the relation or adaptation brought about by the explicit movements of pie-eating. So similar, and yet so different! Even if you admit that the alleged but mythical difference "for consciousness" is the very least of the differences, how great is that difference! And even after the boy has eaten the piece of pie, if for any reason he thinks, imagines, or even suspects that he has not eaten it, the said thought, imagination, or suspicion is going to function, *do something*, in his subsequent behavior.

We can not believe that thought is "highly integrated bodily activity *and nothing more*." (*Psychology*, p. 325. *Italics mine*.) It seems rather that Watson has, either arbitrarily or blindly, cut the heart out of thought and asked us to be satisfied with objective, post-mortem observations upon its cold carcass. If "thought is the action of language mechanisms" (*Psychology*, p. 316) with or without vocal speech, if it is "highly integrated bodily activity and nothing more," how could the human "values" be accounted for? And we are not speaking now of values as matters "purely subjective" as some would hold them to be. Value is objective *as value*, if not as an essence of physical fact. (*Cf.* Tufts in *Creative Intelligence*, p. 372.) Is the idea of "the good," for example, nothing more than a highly abbreviated, greatly refined, system of implicit (and explicit) reactions substituted, by simple or complex mechanical substitution, for one or more earlier and originally more explicit reactions to some object or objects which we craved? We are told that man does not live by bread alone. Are the good, the true, and the beautiful muscular or glandular reaction-substitutes for our infant reactions to food, shelter and booty?

What Professor Watson pigeon-holes as the merely mechanical process of substitution of one set of movements for another is after all a *psychological process of meaning*. There *is*, to be sure, that substitution and abbreviation which he claims. But it is only because the fact of psychological meaning, or objective reference,

underlies the fact which he refers to as mechanical substitution that the latter can even be truthfully called substitution. Without the common meaning factor in the two reaction systems in question, one of these could not even be *thought of* as substituted for the other. In other words, in the very act of denying the functioning of the conscious factors in behavior, Professor Watson is unwittingly assuming it.

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REVIEWS AND ABSTRACTS OF LITERATURE

A History of English Philosophy. W. R. SORLEY. Cambridge Press. 1920. Pp. xvi + 380.

Professor Sorley, of Cambridge University, has long been known to students of British philosophy for his stimulating chapters in *The Cambridge History of English Literature*. His new book, just published by the Cambridge Press, is a collection of those chapters, and thus makes readily available to students of philosophy and to the general reading public what was formerly somewhat difficult to find and quite expensive to possess. Professor Sorley's book is easily the best history ever written of British philosophy.

It is surprising, in comparing the book with the original chapters in *The Cambridge History of English Literature*, to find how few changes, how little revision, were needed to make isolated and detached chapters fit smoothly and integrally into a united and continuous account of the development over three centuries of a body of national thought. It is only occasionally that the most careful reader would detect the threads by which the original pieces of work are held together, and in no case are these threads in the least objectionable. The more important changes which Professor Sorley has introduced into his history as it appears in book form may be briefly pointed out. A new chapter on the Cambridge Platonists is included, as that group of writers had been treated by a different author in *The Cambridge History of English Literature*, and Culverwel and Glanvill are now included happily among the Platonists instead of in the section on "Hobbes and Contemporary Philosophy." The accounts of Lord Herbert of Cherbury, of Richard Cumberland, of Sergeant, and especially of Thomas Reid and his school have been expanded; and for the first time, brief accounts of Zachary Mayne, of Bosanquet, of Laurie, and of James Ward have been added. Thomas Brown is fortunately rescued from his former misleading classification with James Mill and Ricardo among the Utilitarians, and put where he belongs in the Scottish School. A very able criticism of Locke's *Essay* has been further developed in

two additional paragraphs (pp. 115–116), in which Locke's two different approaches to the analysis of experience, the epistemological and the ontological, are effectively contrasted. Finally a brief, and purely formal, retrospect has been appended.

In connection with such a history as that which Professor Sorley has given us, covering a period of three crowded centuries within the limits of three hundred pages, one would be indeed surprised not to find occasional views with which one could not fully agree. I find, however, exceedingly few such cases, and only two of these cases are important enough to be here noted. First, I can not but wonder why Bentham is charged with having "disregarded the personal equation," with not allowing "for the difference of individual susceptibilities"; for Bentham devoted an excellent chapter in his *Principles of Morals and Legislation* (Chapter VI.) to a consideration of just such variances of personal sensitivity and idiosyncrasy. Secondly, I would object to the wholly subjectivistic interpretation of Hume, which, however much in accord with the traditional account of Hume, is rather imposed upon than derived from the first three parts of Book I. of the *Treatise*. Professor Sorley is not as subjectivistic in his handling of Hume in his book as he was in *The Cambridge History of English Literature*; for whereas he formerly spoke of the law of association as accounting for the grouping of *mental contents*, he now speaks of it as accounting for the grouping of *mental phenomena*. There is a gain for objectivity in the substitution of *phenomena* for *contents*; but I should wish to see the qualifying adjective *mental* entirely removed. In the first three parts of Book I. of the *Treatise*, Hume uses the words *impression* and *object* so interchangeably that he gives no indication of the later treatment of the epistemological problem of the relation of impressions within the mind to things outside the mind. Of course in the last part of Book I. of the *Treatise* Hume did become more epistemological and subjectivistic, and in the *Enquiry* he is frankly dominated by that conception of the problem of knowledge. Yet Professor Sorley seems to join the great mass of commentators on Hume in reading back into Hume's originally quite naïve empiricism the full skepticism of his later sophisticated viewpoint, even in reading back into Hume's whole philosophy, which aimed to abandon abstractions and to oppose the curious current attempt to ontologize scientific concepts, the Kantian and post-Kantian understanding of impressions as mental states. I would not wish to indicate that I desire to go to the other extreme and to deny that Hume becomes increasingly subjective and skeptical, that is, increasingly epistemological, as the weariness of sustained analysis leads him from fresh and close observation of experienced facts and relations to a sort of

a priori speculation upon the possibilities of knowledge at all. But I would insist that Hume begins with merely a thoroughly empirical programme, that he at first simply identifies reality with what men as a matter of fact do experience (instead of with hidden substances and essences and powers), that he has no dualism between what is perceived and what is really there, that only as his thought develops he begins to introduce a psychological and epistemological treatment of the content of perception, to make impressions subjective states, and thus to arrive at a skepticism concerning the real world in place of naïve acceptance of the real world as given in experience. Hence, just as Professor Sorley so admirably pointed out, the dual approach to the treatment of experience in Locke, so I would like to recognize another, though different, dualism in Hume. Indeed does any writer consistently maintain and seriously believe the epistemological proposition that the objects of his mind in thinking are nothing beyond his own subjective states?

A more general criticism of Professor Sorley's book arises from a consideration of method, of the proper fashion in which to connect up technical philosophy with the other aspects of a national life and culture. Professor Sorley tells us that he will not write a history of philosophy as a long criticism of other men's ideas from his own standpoint (a method into which even so brilliant an historical critic as Sir Leslie Stephen only too often lapsed), but that he will write his history from the standpoint of the successive philosophers with whom he deals (p. v). And he succeeds most remarkably, giving the historical and literary background of certain ideas, including most illuminating accounts of the life and times of the more important figures, sympathetically adopting the point of view of the age dealt with. But none the less, I remain unsatisfied with Professor Sorley's history. It is written by a professional philosopher, by one who makes it his business to deal in ideas and is interested in ideas for their own sake. He deals with the background in order to throw light on the prevailing ideas, but does not use the ideas to clarify our understanding of the age in which the ideas were operative. He relates philosophy to general literature (as the appearance of his book as chapters in *The Cambridge History of English Literature* would lead us to expect), but does not relate it intimately enough to the multifarious business of life in England. The fact that Locke was driven to write the *Essay* because of problems in morality and revealed religion is not used to relate Locke to the deistic movement, to Newtonian science, to the Cambridge Platonists; and the connection of Locke's *Essay* to the *Treatises of Government* and to the *Letters for Toleration* is not noted, is evidently not supposed to exist. There is no comment upon the fundamental interest in morals

which drove Hume to take up the epistemological problem and to write Book I. of the *Treatise* as an introduction to his discussion of morals and to his intended further discussion of politics and "criticism." Hobbes, the tutor of kings, Locke, the friend of statesmen, Hume, the historian and dabbler in politics, are not treated as any less academic figures than Hutcheson, Reid, and Hamilton who occupied chairs of philosophy and wrote as experts in artificial inherited problems. Thus much of the peculiar glory of the British tradition in philosophy, a glory which no other branch of modern philosophy equally shares, is lost sight of. Thus one finds in Professor Sorley's volume no mention of the theories of James I., no sketch of the work of Newton and Charles Darwin, no realization of the significance of Blackstone and Burke. And thus philosophy is rather a delightful and refined object of study than a way of living and a guide in practical affairs. Perhaps it is too much to hope for so many things in so brief a volume as that which Professor Sorley has given us. But surely the larger contacts of philosophy should be constantly alluded to, should be emphasized as important. It is just because Professor Sorley has done the finest work in the history of British philosophy of any living critic that I am disappointed in not finding even more in his book. He has given us a book which represents the most masterly and scholarly method in philosophy as philosophy has been treated during the past two generations as a branch of the academic curriculum; but he does not lead us on to a more helpful reconstruction of our methods of teaching philosophy as a wide and deep reflection upon the affairs of men, a reflection which is guided and determined in its course by the outstanding figures, but which is only as vital as it becomes incorporated in the contemporary life of humanity.

In conclusion, I desire to point out the splendid comparative table and bibliographies which Professor Sorley appends to his book. The former relates English philosophy to current advances in other fields and to world events, and thus constitutes the basis for the kind of a history of philosophy which I have indicated as desirable. The latter is, as those who have used *The Cambridge History of English Literature* already know, a full, elaborate, and reliable piece of work, which will serve as guide to a thorough knowledge of the sources of British philosophy and to the main secondary works about British philosophy. Indeed no part of Professor Sorley's book will prove of more value to the student who wishes to go on to a first-hand acquaintance with the most important writings in British philosophy.

STERLING P. LAMPRECHT.

JOURNALS AND NEW BOOKS

RIVISTA DI FILOSOFIA NEO-SCOLASTICA. February, 1920. *Il problema fondamentale nella filosofia di Spinoza* (pp. 3-23): UMBERTO A. PADOVANI. - Absolute reality does not belong to the empirical order. It is found in God alone, the knowledge of whom constitutes the only good of the soul. *Forma ed energia in relazione con la materia ed energia della fisica moderna* (pp. 24-41): R. BIZZARI. - The Aristotelian theory of matter and form offers the best solution to the problems of modern physics. *Vincenzo Buzzetti e Félicité Robert De Lamennais* (pp. 42-55): AMATO MASNOVO. - In his work entitled *De Religione*, Buzzetti refutes the proof of God's existence from the common consent of mankind, so insisted upon by Lamennais. *Seguito della discussione intorno ad astrazione e concretezza* (pp. 56-72): A. CAPPELLAZZI and LUIGI DI ROSA. - A discussion about an article of Olgiati entitled "Astrazione e concretezza." *Note e discussioni. Analisi d'opere.* Victor Delbos, *La philosophie française*: C. NAVONI. P. Guido, *Il male nell'immanenza e nella trascendenza*: G. PEPE. G. Politeo, *Scritti filosofici e letterari*: G. PEPE. Joseph Geyser, *Lehrbuch der allgemeine Psychologie*: A. G. V. Cathrein, *Philosophia moralis in usum scholarum*: A. G. *Notiziario*.

Harvey, E. Newton. *The Nature of Animal Light*. Philadelphia: J. B. Lippincott. 1920. Pp. 182. \$2.50.

McDougall, William. *The Group Mind: a sketch of the principles of collective psychology, with some attempt to apply them to the interpretation of national life and character*. New York and London: G. P. Putnam's Sons. 1920. Pp. xxii + 418. \$5.00.

Vivante, Lello. *Principii di Etica*. Rome: P. Maglione & C. Strini. 1920. Pp. 314. Lire 8.

NOTES AND NEWS

A PRIZE of \$500 has been offered by Thomas A. Edison, Inc., for the most meritorious research on the effects of music submitted to the American Psychological Association before June 1, 1921. Manuscripts may be sent any time up to May 31, 1921, to Professor W. V. Bingham, Carnegie Institute of Technology, Pittsburgh, Pa., who will transmit them without the names of the authors to the members of the Committee of Award, to be designated by the American Psychological Association. The following topics are suggested as suitable, but the choice of subject is not limited to this list. The committee will welcome any research bearing directly on the nature of music and its effect on listeners.

Classification of Musical Selections according to their Psychological Effects.

Individual Differences in Musical Sensitivity.

Types of Listeners.

Validity of Introspection in Studying Affective Responses to Music.

Modification of Moods by Music.

Effects of Familiarity and Repetition: Emotional Durability of Various Types of Selections.

Effects of Contrasting Types of Music on Muscular Activity.

Other Objective (Physiological) Measurements of Effects of Musical Stimuli.

An Experimental Study of Music as an Aid in Synchronizing Routine Factory Operations.

A SITE for the new building in Washington which is to serve as a home for the National Academy of Sciences and the National Research Council has recently been obtained. It comprises the entire block bounded by B and C Streets and Twenty-first and Twenty-second Streets, Northwest, and faces the Lincoln Memorial in Potomac Park. The Academy and Council have been enabled to secure this admirable site, costing about \$200,000, through the generosity of a number of friends and supporters. Funds for the erection of the building have been provided by the Carnegie Corporation of New York.

COMMENCING with the January 1921 number, *Psychobiology* and *The Journal of Animal Behavior* will be merged under the new name of *The Journal of Comparative Psychology*. The *Journal* will be edited by Knight Dunlap and Robert M. Yerkes jointly, and published by the Williams and Wilkins Company in Baltimore. Studies contributing to the knowledge of mental function and behavior in any organism will be accepted for publication.

THE new chairman of the Division of Anthropology and Psychology of the National Research Council for the year beginning July 1, 1920, is Dr. Clark Wissler, curator of anthropology at the American Museum of Natural History, New York.

PROFESSOR JOHN M. WARBEKE, of the Department of Philosophy and Psychology of Mount Holyoke College, is abroad on leave of absence for the year. His courses are being given by Dr. Arthur Mitchell, formerly assistant professor of philosophy in the University of Kansas.

DR. WALTER DILL SCOTT, professor of psychology in Northwestern University and president of the Scott Company, has been elected president of Northwestern University. During the war Dr. Scott was director of the committee on personnel in the army, with the rank of colonel.

PROFESSOR E. K. STOUT, of the University of St. Andrews, has resigned the editorship of *Mind*, and is succeeded to that position by Dr. G. E. Moore, of Cambridge.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

PROFESSOR DEWEY'S ANALYSIS OF THOUGHT

THE most serious charge at present brought against pragmatism is that of infertility, of incapacity to provide the basis for a systematic reconstruction of the philosophical disciplines. Pragmatists, says Professor Hoernlé, have made fewer contributions of weight to any recognized branch of philosophy than the members of any other school. Since the considerations fundamental to pragmatism are drawn from logic, from a statement of the position and function of thought in experience, the present absence of a pragmatic logic, a systematic working-out of the pragmatic method in the way that Bosanquet, for example, has worked out the method of idealism, is regarded as a fact of sinister significance for the movement. The nearest approach to such a coherent treatment of the parts of logic, as distinguished from polemics, or statements of general principles, is to be found in Professor Dewey's *How We Think*. It is the purpose of the present paper to criticize certain points in the treatment therein contained, to show, if possible, instances of defective analysis, misplacings of distinctions, which render unnecessarily difficult a reorganization of the material of traditional logic from the instrumental viewpoint. I have tried not to overlook the fact that the book is less a systematic treatise, even on a small scale, than a practical study of the means of making thought more effective, less liable to error. Nevertheless, there is a specifically logical portion, and this appears to contain errors the effect of which is to introduce incoherence, an unnecessarily fragmentary character, into the treatment, and to make it in one or two respects definitely misleading.

In Part II. of the work in question, entitled "Logical Considerations," there is an analysis of the stages or elements present in every complete act of thought. These are found to be (1) the occurrence of a difficulty, (2) its accurate specification, (3) suggestion of a solution, (4) expansion of the suggestion, and finally (5) experimental testing. The third step, the step of passing from the known to the unknown, is identified with the operation traditionally familiar as induction. The fourth, that of developing the implications

of a suggestion, is similarly identified with what is traditionally known as deduction. I shall try to show that these identifications can be made only at the expense of giving to both induction and deduction an interpretation that distorts their true character, or, rather, that loses no inconsiderable part of the significance contained in or at least foreshadowed by the accounts of them that have been given in the historical development of logic.

The first point in the analysis with which it seems possible to find fault is the identification of induction with suggestion or the emergence of an hypothesis. We are supposed to begin with isolated details, and go from them to a general law or connection by which they are unified; the terms between which the inductive relation holds are regarded as temporally antecedent and subsequent. Such a view, though in accordance with the meaning given by Mill to induction, seems to be at variance with other statements of Dewey's general position, and to contain various objectionable features. Thought is elsewhere in Dewey's works spoken of as a constant reorganization of experience, as a passage not from isolated data to coherent ideas, but from a relatively incoherent and inaccurate unification of data to a redetermination in which the character of both is reciprocally modified. It seems inconsistent, therefore, to attribute to particulars even a momentary temporal priority as against universals. Recent discussions of induction, furthermore, have made it abundantly clear that no such temporal sequence is necessarily involved in it; the relationship of which the norm is more or less accurately defined in Mill's canons may be regarded not as one between events, but as between any abstractly formulated law or connection and the particular facts adequate to establish it. So regarded, this relationship may be briefly formulated as follows: any suggested law or abstract connection, which may be symbolized $s-p$, is true if (1) the conjunction of its terms is positively embodied in fact, *i.e.*, if the concrete $s-p$ is observed, and (2) all alternative causes of p are excluded by their failure to occur in the presence of p , or by their presence in the absence of p .

The advantages of treating induction as a matter of disqualification of competing hypotheses are too lengthy to be given in full here, but attention may at least be called to the service of such a treatment in unifying the interpretation of induction. The establishment of laws upon facts is universally regarded as increasingly valid in proportion as the Method of Difference is substituted for the Method of Agreement, *i.e.*, as enumeration of cases passes into experiment. But the facts secured as a result of experiment come to light *after* the hypothesis is formed, since it is only in the light of a suggested

explanation that the conditions of experiment can be arranged. Hence at least a part, and that the logically more important part, of the data which the general idea unifies, and which together form one term of the inductive relationship, are temporally subsequent to the idea, and can not be its cause or generating antecedent. The importance of experiment and its logical function are of course not only admitted but emphasized in *How We Think*; what seems to have been overlooked is their significance with reference to the classification of induction. When "scientific induction" is defined as "all the processes by which the observing and amassing of data are regulated with a view to facilitating the formation of explanatory conceptions and theories," accuracy seems to require that for the words "facilitating the formation," the expression "determining the acceptance" be substituted.

Another reason for objecting to the identification of hypothesizing and induction is that the former seems at least equally deductive in character. The definitions of deduction are numerous, but they always involve the application of knowledge, of ideas, already in hand. The assimilation of a particular case to a familiar rule is the typical illustration of the first figure of the syllogism. Obviously, any hypothesis from which this assimilative character, this aspect of subsumption, is *totally* absent can only be a guess, in the most derogatory sense of the word, a suggestion in behalf of which no presumption of relevance or adequacy can be offered. Only if we already have some information about a problematic situation, some experience of analogous situations, are we able to form a conjecture not entirely random. A hypothesis from which the deductive aspect was totally excluded would correspond to a situation absolutely unfamiliar, and this, as Professor Dewey repeatedly asserts, is the limiting case in which thought ceases to be possible. Apparently, therefore, both the nature of induction and the nature of suggestion make impossible any simple equation of the two.

To say this is not, of course, to deny that the facts given at the start of an inquiry are in some degree related to what they suggest as inductive premises to inductive conclusion. It is, however, to deny that the suggestive rôle of the facts is what gives them their inductive character, and the meaning of the denial may perhaps best be illustrated by the statement that the inductive relationship is much more in evidence between the hypothesis and its final verification, between the hypothesis and the experimentally discovered facts that determine whether it is to be accepted or rejected.

An analogous criticism may be made of the equation between expansion of a suggestion and deduction. If it is true that the act of

conjecture contains a deductive element, the consequence is clear that deduction can not be confined to such expansion. Furthermore, the meaning which deduction has acquired in recent developments of logic (*cf.* Royce's article on "Logic" in the *Encyclopedia of the Philosophical Sciences*, Vol. I.) is that of a general theory of types of order, or implication, and the development of the content of a hypothesis, while it of course follows or makes use of such types of order, can not, since it is partial or selective, be identified with them. This selectiveness is insisted upon by all writers of the pragmatic school; thought is said to pick out the features or implications of a hypothesis which are relevant to the question at issue.

The practical bearing of the foregoing contentions may be illustrated by a reference to at least one of the consequences attendant upon rigid separation of the stages of thought, and, as it seems, misinterpretation of them. The last stage, Professor Dewey says, that of experiment, validates or invalidates the whole operation: induction yields the hypothesis, deduction amplifies it and gives it the form required for submission to the issue of experiment, and finally that issue fixes its status as truth or error. This criterion, that of practical success, has been criticized as involving the "fallacy of the consequent"; the pragmatist has been said to argue from "if *a* is true, *b* is true," and "*b* is true," to "*a* is true." The inference holds, it is said, only if *a* is the sole possible antecedent of *b*; a hypothesis must not only fit the facts, it must be the only hypothesis to fit the facts. To this Professor Moore replies in *Creative Intelligence* with the rejoinder that the assumption of a plurality of hypotheses applicable to a given set of facts is the essence of skepticism, and that, therefore, if an hypothesis meets all the facts in question, it is the true explanation of them. Such a postulate can be true, however, only in a final unification of knowledge. Short of that, it is undeniable that we may be confronted with a situation for which there are alternative explanations between which we are without the means to decide.

An answer of more immediate relevance seems therefore to be required. Such is to be found, if I am not mistaken, in a reference to the context in which pragmatism places reflection, the context of doubt or conflict. The hypothesis that is formed under conditions of conflict is formed always as an alternative to some other already in the field, and experimental testing, to be relevant to the issue, must be found in the exhibition of some facts decisive between the rival alternatives. Conflict, in other words, directs experiment to crucial cases, such that the positive corroboration of one hypothesis is also a negation of the alternative. But the conditions under which such

confirmation is negative as well as positive are precisely those distinctive of Mill's Method of Difference or Joint Method, as against the Method of Agreement and ultimately Induction by Simple Enumeration. The analysis offered by Mill and other writers on induction is thus available, with modifications in perspective, for defining the conditions of conclusiveness in experimental verification. If, however, degrees of adequacy in induction are treated as marking differences in the facts out of which suggestion springs, the logician is left with no means, or at least no principle, for the evaluation of experimental results. Thus the pragmatic logician, by limiting too narrowly the scope of induction, deprives himself of the authority of the inductive canons at the moment he is most in need of it. In practical terms, he seems to have no reply in principle, in any dispute, to whoever may say "I told you so," no matter how irrelevant to the issue may be the favorable result offered as confirmation.

The conclusion to which the foregoing criticism seems to point the way is that neither induction nor deduction can be isolated as a distinct step or process of thought. In the third at least of Professor Dewey's five steps, both are present simultaneously. This conclusion, if true, suggests the more general possibility that the reflective act as a whole is one, that the stages noted are not temporally distinct divisions of thinking, but that, as thinking becomes "reasoning," in the eulogistic sense of the word, at least the second, third, and fourth of them tend to fuse into one indivisible act. Such a consideration may seem psychological, as distinct from logical; this distinction, however, is scarcely one which a pragmatist is at liberty to urge as a ground for refusing to pursue the discussion. Nor is it possible to deny that attention to the features distinguishing "genius" from mere readiness to take pains can have practical import. Even if it is true that in this sense we can not by taking thought add a cubit to our intellectual stature, we may be saved from faith in a kind of intellectual democracy to which Professor Dewey's treatment, perhaps only through misunderstanding, might lead the unwary.

To such a consideration, Professor Dewey himself points the way. In *How We Think*, Ch. III., under the caption "dimensions of suggestions," ease, variety, and depth are given as the aspects of suggestion, the qualities with reference to which suggestion may vary. If "reasoning" be understood in the sense just indicated, to indicate reflection at its highest pitch of effectiveness, the contention seems not unreasonable that it is no other than suggestion characterized by such "profundity"; and conversely, that if the quality in question is to be defined in a manner other than metaphorical, the traits dis-

tinguished in the logical analysis of reasoning are those that must be included in the definition.

To be more explicit: not all suggestion in the presence of a difficulty constitutes reasoning. We may think of possible solutions that are seen on a moment's consideration to be irrelevant to the conditions of the problem, *i.e.*, suggestions evoked by only a part of the problematic situation. In proportion as the situation as a whole is effective in controlling suggestion, a correspondingly large part of the comparison of tentative conjectures with the conditions to be met becomes unnecessary, for these conditions operate in advance to call out only suggestions that are relevant, and at least to that extent adequate. Given the same problem, and an approximately equal equipment, in the way of information and general ideas, one of two men may find illumination at once, while the other may grope about trying one hypothesis after another which would either be dismissed at once by the first as patently ineligible, or never occur to him at all. The difference, in other words, between the penetrating and the obtuse mind—in James's terminology, between the minds characterized respectively by association by similarity and association by contiguity—is a difference between a focusing upon the case in question of all the funded results of the agent's past experience, the occurrence of analogies at once subtle and to the point, and as contrasted with this, a disposition to entertain possibilities that are trite or irrelevant. If this is so, if reflection becomes reasoning, in the distinctive and eulogistic sense of the word, in proportion as suggestion represents the maximum use of the intellectual resources potentially available, the deductive character of suggestion becomes increasingly apparent.

From this point of view, then, the act of suggestion is one in which a given case is thought of as possibly analogous to some previously experienced situation, as perhaps coming under the condition of some already established (or at least assumed) law of which the relevance to it was not immediately obvious. It remains to be shown wherein the act contains also an inductive element. The simple identification of suggestion and induction in the manner indicated in *How We Think* has been rejected, but if the essential unity of the act of thought is to be maintained, the inductive aspect of suggestion must be made clear. This seems to be possible if we consider induction as a matter of exclusion, of gradual elimination, from a supposed cause, of all circumstances not genuinely essential to the effect. Assuming such an interpretation, I shall try to show how hypothecation involves the elements indicated as characteristic of induction, exhibits the expulsion from an implicative antecedent of

everything not proved germane to the consequent. The suggestion by which a conflict is solved, to repeat the burden of the foregoing paragraph, is always an attempt to extend to a problematic case some more or less vaguely conceived law, or to bring the datum in line with some other case in which the connection of content is perhaps not clearly analyzed out. Given the problem, the essential intellectual difficulty is always that of finding the analogy, the relevant law; and the mark of superior intelligence is ability to penetrate disguises, to see beneath variations in detail an essential identity. This penetration, this perception of the same amidst difference, is inductive in that it frees the essential element in the familiar law, the analogous instance, from the adventitious circumstances in which it was embedded, and which obscured its applicability to the situation in question. That the law as finally applied and *pro tanto* verified did contain at the start an impure nexus, a connection vitiated by irrelevancies, is apparent from the fact that the conflict occurred. Had its area of applicability been demarcated with perfect clearness, the problem would either never have arisen, or have been solved as soon as perceived.

An illustration may serve to clarify the point. The proverbial case of such penetrative insight is the reputed suggestion to Newton of the law of gravitation by a falling apple. The inductive aspect of this hypothesis appears, if what has gone before is true, in that the element of movement toward the earth in a straight line is excluded from the concept of gravitational acceleration: the new facts to which the concept is extended admit the extension only on condition that the concept be redefined or remoulded, that elements in it previously considered essential be dropped or reinterpreted. The hypothesis must, of course, be tested by appeal to fact, and my contention is not, therefore, that the inductive relation or operation is complete with the emergence of the hypothesis but that the hypothesis does contain an inductive aspect; furthermore, that the inductive aspect appears, not, as Professor Dewey asserts, in that there is a passage from particulars to a universal, but in that a universal already in existence is more accurately defined and delimited by its application to a new particular.

If it is admitted that the elements essential to reflection are, or may be, both contained in the act of hypothecation, what remains to be shown is that the other steps into which Professor Dewey analyzes thought are not really independent operations at all. The first, the occurrence of a difficulty, the emergence of conflict, is not of course regarded as a part of reflection, but only as its occasion. The second, the definition or location of the difficulty, clearly involves the whole

process in itself. In proportion as the difficulty of finding what is the difficulty increases, the total operation of suggestion, elucidation of meaning, and ultimate testing has to be gone through with in detail: alternative diagnoses have to be thought of, developed into their implications, and referred to the conditions that are not doubtful. It is a cycle within a cycle, not an irreducible element in a single act. Of the fourth operation, we may say that it is not a fixed quantity, but in proportion as the reflective agent is acute or intelligent, the implications of his suggestion are in a corresponding degree apparent to him at once, and the explicit process of deduction of consequences need not be gone through with; or, where the consequences are too extended or too unfamiliar to be grasped in a single flash of insight, the work of bringing them into clear consciousness either repeats the whole operation, or else is a mere matter of calculation, something which could conceivably be turned over to an adding-machine. Either the implications are unfamiliar, and must be unrolled tentatively, with constant reference to the conditions to be met; or they are familiar, a matter of routine, and their explication is the work of habit or mechanism. Of this step again it seems to be true that it is either a cycle in a larger cycle, involving all the phases of thought, or that it is present in a degree inversely proportionate to the agent's acuteness, profundity, breadth of grasp.

There remains only the fifth stage, that of experimental testing. I have no intention of controverting the statement that this is essential if the process of reflection is to be complete. It is certainly not, however, a separate stage in the sense of being an independent variable; the question it answers is laid down by the preceding "mental" processes, the appreciation of the problem plus the suggested hypothesis. It exhibits also the same variations correlated with variations in degree of intelligence as do the previous stages; the better the quality of the antecedent reflection the less the experimentation required to establish the conclusion. In proportion as an hypothesis really meets the conditions of a problem the experiment is directed with increasing accuracy to crucial instances. If it is true that no real issue can be settled without actual trial, it is no less true that the mark of high ability is economical, *i.e.*, relevant, testing. Of this final stage, too, the form taken in any given problem is fixed, at least in general outlines, the moment the hypothesis has taken shape.

To the contention for the unity of the whole reflective process I believe Professor Dewey would assent, though for the purpose of his book, which is to fix attention on the points at which error is probable and control possible, the distinctness of the stages of reflection is doubtless more important than their unity. And in general it will,

I hope, be apparent that the purpose of this discussion has not been to take issue with Professor Dewey's view of the nature of thought and its function in experience. Rather, I have tried to point out minor points of detail in which, perhaps only through misplaced emphasis, the treatment of reflection in *How We Think* presents a systematic restatement of prior logical analyses which seem to belong in any working-out of the subject. Or, from another point of view, my purpose has been to indicate possible modifications in Professor Dewey's account of thought that may promote a more fruitful interaction of psychology and logic. I have tried to suggest, *e.g.*, in "direction of experiment to crucial instances," an objective form of definition for what he calls "profundity" or "depth" in conjecture. Or, more generally, to indicate, however inadequately, a method of transforming the results of logic into a shape relevant to the purposes of psychological investigation, and *vice versa*. It is no unimportant part of the instrumentalist contention that psychology and logic are essentially related, and that progress in either one depends upon progress in the other. All the more important is it that no view, no analysis, should be accepted in either field that may block the traffic between them.

LAURENCE BUERMEYER.

PRINCETON, N. J.

THE METAPHYSICAL MONIST AS A SOCIOLOGICAL PLURALIST¹

THE main purpose of this brief paper is to stress the fact that one may hold the numerically monistic conception of the universe as Absolute, and even as Absolute Self or Person, without thereby committing oneself to the conception of the social group as literally a person or self, a "being with a mind of its own."² There is, to be sure, a sense in which the conception of the social group as a self may be said to be facilitated by the Absolute-Self-doctrine. For if the universe is rightly conceived as One Self, including all the unnumbered lesser selves of the universe, there is apparent reason for describing races, societies, communities each as a sort of intermediate self of many interrelated persons. (The conception of a self as including selves is familiar to us not merely through the accumulating accounts of "subconscious" and "co-conscious" selves, but through the facts of the moral experience, the battling of "lower" against "higher" self, for example.) So far, however, the argument for

¹ A paper read at the meeting of the American Philosophical Association in Ithaca, December, 1919.

² Royce, *The Problem of Christianity*, Vol. I., p. 63.

sociological monism consists merely in the statement that for the personal absolutist there is no inherent difficulty in the conception of a genuine self which includes other lesser selves. This is true; but it is far from a proof that all social groups, or even some social groups, actually and literally are selves. This paper undertakes first to indicate the insufficiency of the empirical arguments advanced for the conception of the social group as literally a self; second to show the compatibility of the pluralistic conception of society with the monistic (absolutistic) philosophy of the universe.

I. Fundamental to both these purposes is a clear statement of what must be meant by the doctrine that a social group is literally a person. The doctrine evaporates into sheer metaphor unless it means that a social group is a being aware of itself as unique, or individual, relatively persistent or identical, and changing. In Fite's pregnant (and Hegelian) phrase a self or person must exist for himself and not merely as an appearance to others. Now all the arguments known to me for the self-conception of society fall far short of establishing the truth that a social group is in this sense a person. Such arguments seem to fall into two groups:

1. There is first the consideration, eloquently urged by Royce, that a man may love his country—church or country—and be loyal to it and sacrifice himself for it as if it were a self. In other words, Royce argues (and in my opinion very effectively) that a society is regarded by its members as a self. But this certainly does not prove that a society is a self. Laski, for instance, in asserting that "certain personalities, England, France, Germany are real to the soldiers who die for them"³ certainly need not mean that England, France and Germany are literal "personalities." For nothing is literally person or self which is not *for itself*, more fundamentally than for other men, a person.

2. The second group of arguments includes all those which set forth and illustrate the manifest fact that persons associated together bring about effects which are not the mathematical resultant of their separate ideas and volitions added or subtracted after any mechanical fashion. Royce makes use of this argument (and, unjustifiably as it seems to me, calls on Wundt as witness) in his insistence that because it is "the social mind" or "community which produces languages, customs, religions . . .—mental products which can be psychologically analyzed, which follow psychological laws and which exhibit characteristic processes of mental evolution—processes that belong solely to organized groups of men" that we are *therefore*

³ *The Problem of Sovereignty*, Chap. I., p. 4.

justified in declaring that "community has or is a mind."⁴ Miss Follett also bases her doctrine of the "group-person" on the fact that people associated together may (and sometimes do) create genuinely new experience (conception, emotion or will)—a creation impossible not only to any one of these selves singly, but to the lot of them together so long as each acts as a separate unit either foisting his conviction on the rest, or yielding it, or mechanically compromising it. This fact of social "interpenetration" on which Miss Follett so brilliantly insists seems to me uncontrovertible. I take issue merely with her conclusion that "wherever you have a genuine common will you have a real person," that "the process of making decisions by the interpenetrating of thought, desire, *etc.*, transfers the center of consciousness from the single I to the group I, . . . [to] the two-self, three-self, several-self, perhaps village-self."⁵

II. Up to this point I have merely tried to discredit, not as statements of fact but as arguments, the empirical considerations actually adduced in favor of the genuine group-person. The more difficult question remains unsettled: is it not incumbent on the absolutist, whatever the empirical arguments *pro* or *con*, to deduce from his conception of the universe as All-including Person the conception of the social group as lesser person? Otherwise put, does not rejection of the group-person carry with it metaphysical pluralism?

In favor of the view that the metaphysical monist is of necessity an upholder of the group-self, the community as person, the following argument may be urged. The Absolute, unless the word is to lose its specific meaning, certainly must be defined as a genuinely and ultimately single being—a being (not indeed "*beyond*" or "*over and above*") but *fundamental* to the many beings which are its parts or members. The many, in a word, are parts of the Absolute; the Absolute is not a composite of the many. Now, in a universe thus conceived there is—so the argument runs—no room for communities or social groups which are mere pluralities of interrelated selves, conscious indeed of mutually influencing each other yet constituting each a mere system or organization of distinct though related selves and not a single being.

This argument, it should be noted, is based on no mere analogy but on the monistic doctrine of relation. The absolutist, or monist, has rejected pluralism precisely because of its theory of relations as external. He holds, on the other hand, that relation is ultimately the characteristic of a whole, or including entity; that "two things can

⁴ *Op. cit.*, I., p. 65.

⁵ "Community is a Process," *Philosophical Review*, November, 1919, XXVIII., p. 578.

be related only as both are included in a third as their common ground;"⁶ and (if he is personalistic as well as absolutist) that relation is *relating*, and "relating is a specific characteristic of those complex entities known as selves."⁷ Obviously, therefore, the critic urges, the absolutist must abjure the conception of community or group as constituted by distinct yet related selves, in favor of the doctrine of the community as a genuine self relating its members.

The reply of the metaphysical monist, or absolutist, who is also a sociological pluralist is briefly the following: It is indeed true, he asserts, that "two things" can be related "only as both are included in a third as their common ground,"⁸ and that consequently the interpenetrating selves of a social group are members of an including greater self. But no *a priori* consideration forbids the conclusion that between the human and near-human selves (each a relating self) and the all-including Absolute Self, the ultimate relater, there are no intervening self-conscious persons. Community, association, and state, so far as they are personified, are therefore sociological and neither psychological nor metaphysical units, constructs of the socially minded selves who compose them. Each of these members of society is distinctively conscious of himself as in close mutual relation with his fellows and each may personify the social group and conceive it, feel toward it, or behave toward it as if it were a person. But the social group, even when personified, remains a plurality, larger or smaller, of the selves who are ultimately related as members of the Absolute Self. After this fashion, sociological pluralism is harmonized with a genuine metaphysical monism.

It should be noted, in conclusion, that it would be possible to maintain the literally personal existence of *natural* social groups while denying that of *artificial*, or voluntary, societies, because of their apparent dependence on the impulses or purposes of human selves. One might then conceive the race, or even the community in the wide sense, as a person, without so regarding the trade-union or the bar association. A sociological monism could thus be maintained without thereby entailing the consequences of political absolutism, the doctrine of state or church or any other organization as possessing

⁶ L. W. Stern, *Person und Sache*, p. 346.

⁷ Cf. "The New Rationalism and Objective Idealism," *Philos. Review*, 1919, XXVIII., p. 605 and note.

⁸ L. W. Stern, *loc. cit.*, p. 346. It should be noted that the absolutist does not propose to exclude from science and from every-day life the "impersonal" or "external" relation. This he conceives as relating "seen from below"—relating as it appears when abstraction is made from the relating self.

a reality more ultimate than that of its members, and a consequent sovereignty over them.

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"A LOVER OF THE CHAIR"

PHILOSOPHY is philosophizing; it is the human activity of deliberate reflection, and its historic sum is the sum of the recorded expression of consciously thinking minds. Its subject is experience, nature, phenomena, being—whatever we choose; but its essence is always the same—a man's thoughtful effort to right himself in the course of his life's events, and its essence is, therefore, always imbedded within the subject. We who are by profession philosophers, or teachers of philosophy, are sometimes prone to forget that our subject-matter is no segregated corpus of writings, narrowed to neatly debatable problems, but is, in sooth, as broad as the reach of impersonalized judgment—of any concern which a man may have when for the moment he withdraws from his own foreground and views himself as a nature in the midst of natures. Philosophy is, in fact, a branch of literature, and, even when its consideration is of the truth, of fictive literature. Aristotle's dictum about poetry, that it is a higher and more philosophic thing than history, invites the entirely sound inference that philosophy is indeed but poetic sublimation—a transcendental personification of our simpler humanity. Not all its rigors of dialectic and mathematic method, not all its authoritarian apriorisms, its belligerent empiricisms, can quite purge it of that stain (as so many deem it) of imagery which is, in final honesty, its deeper matter. A sophisticated poetry, Pascal called metaphysics, voicing in his own way the hidden cousinship; to which should be added that the final sophistication is its recognition of the cousinship, and hence of the spreading wealth of its own domain.

These reflections ensue upon the perusal of a book by a man who is neither by training nor profession initiate in the thiasus of the metaphysicians, who assumes no familiarity with its rituals, no gift for its chants. *A Lover of the Chair*, by Sherlock Bronson Gass,¹ is the work of a humanist, untaught of the metaphysical schools (though not unilluminated by the philosophers, for the light of Plato is everywhere reflected), a man professing what the strait-laced metaphysician inherently feels are the softer humanities of belles-lettres. Nevertheless, it is a work which is philosophic not only in mode, for its truly subtle art of expression is in the great in-

¹ Marshall Jones Company, Boston, 1919.

heritance from the mimes of Plato, but even more in the substance of its thought; for Mr. Gass has made the philosophic quest, valley and ridge, where it most yields, in the life of an alert and conscientious intelligence early aroused to that double regard of self and nature which is the center of the rational soul. Furthermore, he has made this quest not merely in a mode generously frank at least to all lovers of subtlety in literature, but with an outcome which sets his final shrine well within the walls of the metaphysical Acropolis. Mr. Gass has given us not merely an adventure, but a philosophy.

His literary form, essays cast in dialogue and memorabilia, gives a first impression of desultory and inconclusive thinking—just as Plato's dialogues, first-off, seem desultory and inconclusive—just as life itself is desultory and inconclusive. But the attentive reader will perceive that herein the author is but applying the lessening of the philosophic master; for it is the greatest sagacity of the genius of Plato that he realized that the last significance of thought is beyond formulation in words; he knew the futility of conclusive arguments, and he knew, too, that conviction is never imposed, that it must be found. Moreover, besides this absolution from the empty pretentiousness of system which the dialogue form gives, it possesses a yet shrewder art; for in throwing thought upon a background of shadowy personalities, phantasmata, intellects half-embodied, it graces it with a double truth; your bald logical abstraction is always an affection, an opinion masquerading as a law; it is not until truth appears in its more honest, if humbler apparel, as biased human thinking, that it becomes winning. This, at least, the dialogue does not allow us to forget. Our Lover of the Chair is always humane, and though stoutly rationalistic in all his convictions, he never deludes himself nor attempts to delude his readers with the facile sophistry of the logicasters who would somehow contrive out of human reasonings a "transcendental" or a "scientific" Super-Reason.

But Mr. Gass is humane not merely in the art of his expression. His essential thinking is humanism, cast not in the lettrist, but in the philosophic mode. Politics, religion, science, art, education, all come in for a shrewdly genial consideration; he lets the voices of the time speak for each, and he seems to listen, and sometimes hardly suggests a reply; but his essential method, none the less, is an inquisitorial irony, analogous to the Socratic, which by uneasy suggestion rather than open refutation gives the lie to pretense and pause to superficiality. Human life in the range of its thoughtful interests, at the core of its humane appeals, it the theme of this

Socratic inquiry; and it is tribute both to its sincerity and its power that there emerges from it a clear and fortified philosophic attitude which is at one with the finest humanism of all ages even while the place of its emergence is America and the twentieth century. For Mr. Gass is a true, not a vulgar, American; he realizes perfectly the context of his life and thinking, and it is the mark of the clarity of this realization, as well as of his integrity, that he refuses to submit to its spiritual enslavements; he welcomes, wistfully enough (for his hopes are tempered) what is noble in our last attainments, but he loses himself never in empty laudations, and he rebuffs with quiet finality our tawdrinesses, our puffy prides. In political bombast, in religious blindness, in the crass complacencies of science, the unabashed temperamentalities of art, the dreary and conceited helplessness of education, in all these, as we know them to-day, he perceives the uncurbed barbarism of our times; but because these interests are uncultivated they are not condemned as futile. Rather, Mr. Gass sees in them the necessary foil of our intelligences, the Chaos which Form must master; and although his outlook is tinted by no temporal optimism, it is stained by no bitterness; indeed, his own spirit is always that of a contained and wholly loveable humor.

In all this comment there has been no attempt to chart the Middle Place of the author's thought, the "center," as he himself calls it. It is anti-pragmatical, as the title of the book indicates. It is shot through with a horror of the Flux, a passion for the Form, as numberless passages show; but it is not therefore gone flounderingly over to noisy mechanisms; its author would be among the last to confound the discourse of reason with a rote of numbers or to attempt to compute the virtues on an abacus. Nor has he any concern with transcendental metaphysics and the cosmos. His affair is in the houses and haunts of men, there where they are most truly men, in the great quest for the sanity of an inner and spiritual life. His philosophy is humanistic in its circumference; it is intellectualistic in its conception of salvation, and it is exclusive in spirit; and if it be touched with the superstition about the divinity of the Greeks, this is at least a superstition which some of us, by the grace of God, are unperturbed to share. At the last there is a citadel, high-seated, to which Mr. Gass is fain to withdraw—in architecture simple, severe, enduring; but he is not concerned that he be followed thither; the place is established only for those who may find it, and generation by generation they are few. Nor are its specifications revealed save to those who are at once its discoverers and its architects.

No, it is not for any high or final or systemic metaphysic that

A Lover of the Chair is so wholly worth reading; nor merely for its art, but centrally because here philosophy may be found in its pure and first form and concerned with its essential concern. For Philosophy is philosophizing, and its subject is human nature where it is most truly humane, seeking out that steersmanship of the soul whereof the undying form is the truth that is the Ideal Man.

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SOCIETIES

EASTERN DIVISION OF THE AMERICAN PHILOSOPHICAL ASSOCIATION: PRELIMINARY ANNOUNCEMENT OF ANNUAL MEETING

THE next meeting of the Association will be held in New York City, at Columbia University, December 28th to 30th. In addition to papers on miscellaneous topics, there will be a symposium on the subject: "The rôle of the philosopher in modern life, with reference both to teaching and to research." This discussion will be led by Richard C. Cabot, professor of social ethics, Harvard University; Thomas Reed Powell, professor of public law, Columbia University; John M. Mecklin, professor of sociology, Dartmouth College; James B. Pratt, professor of philosophy, Williams College; and Frederick J. E. Woodbridge, professor of philosophy, Columbia University. Abstracts of their papers follow:

ABSTRACT OF PROFESSOR CABOT'S PAPER

Can we make philosophy tell more definitely on our students' lives?

1. Philosophy courses are now elected by students without any idea of painful reform.
2. It is difficult but necessary to get students to *practise* the task of conceiving new ideas or arranging old ones as they would practise a musical instrument.
3. Belligerent discussion and truth seeking.
4. Need of taking our task more seriously.

ABSTRACT OF PROFESSOR POWELL'S PAPER

The contribution of the philosopher to the solution of the problems of the social sciences may begin by shedding light on the questions whether the social sciences are sciences and whether their problems are susceptible of solution. The philosopher, as an out-

sider, may be expected to be free from a number of assumptions unconsciously accepted by students of special aspects of social relations. He can therefore help them to uncover these assumptions and trace them to their origins. He can show them the extent to which their methods are common to a number of disciplines and put them in touch with developments elsewhere that have a bearing on their special work. He can teach them to be more critical of their modes of reasoning and of their canons of judgment. He can tell them when they set artificial boundaries to their inquiries and can hint to them what lies beyond. He can help them to see how much of their judgments is based on technical, expert knowledge, and how much is mere personal preference. If he approaches them in a humble spirit he can teach them to be humble.

To do effectively what is here suggested, each individual philosopher should acquire familiarity with some one of the special fields of inquiry in which students of society claim a proprietary interest. Law has a special claim to attention because it is made up of a series of human judgments which are for their purpose authoritative. Here issues are really settled, so far as concerns the case at bar. Out of a series of antecedent facts arises a new fact which must be taken account of. Much of the law is philosophy in action. Whether good or bad philosophy, it actually does a genuine job. In so far forth it is so, whether it is so or not. Law is solid food for philosophers to sharpen their teeth on. A study of authoritative human judgments is a study of ethical ideals or of practical compromises that are matters of fact and not merely of aspiration. Philosophers may perhaps profit from walking in places where they are sure to know when they stub their toes. In learning enough about law to be able to help lawyers improve their methods and their product, philosophers may gather material which is of use for their philosophical inquiries and may acquire greater skill in keeping their feet on the ground while their heads are in the air.

ABSTRACT OF PROFESSOR MECKLIN'S PAPER

After a brief sketch of the difficulties that have always beset philosophy both in teaching and in research, an attempt is made to suggest how these difficulties may be avoided or minimized, on the one hand through the introduction of scientific method and on the other through the cultivation of a sense of social responsibility. It is freely granted that anything like scientific cooperation at the higher levels of metaphysical speculation, where the eternal paradoxes lie and where temperamental differences will always make themselves felt, is impossible. It is not so much the finality of the conclusions

reached nor their scientific character that appeals to the average reader of books on philosophy as the poetic insights, the fascination of the great mysteries of existence, the attractions of style or the personal charm of the writer. It is suggested, therefore, that we must seek in the field of the history of thought the means for the cultivation of the disciplinary effects of scientific method which it seems impossible to attain in the realm of pure metaphysics. A plea is made for the study of the history of human ideals from the broad social and human point of view as opposed to the traditional methods inherited from Hegel. It is insisted, furthermore, that the critical study of the history of ideas should throw light upon the issues that vex us in the present social order.

Attention is called to the fact that the great fruitful ideas, if not the great systems, have originated during those periods when men have felt the pressure of the social problem, as is the case to-day. The concentration of philosophical interest upon phases of the social question and the consequent discounting of the traditional system-builder is, therefore, a hopeful sign. It is a recognition of the fact that what men want is not so much a reasoned interpretation of the universe as light upon immediate and pressing social issues. This temporary departmentalizing of philosophical activity will undoubtedly introduce new vigor and offset the charge of the futility of the philosophers's calling. Finally, by adding "line upon line and precept upon precept, here a little and there a little," we may hope in time to gain the material that will make possible something like a satisfactory attainment of the final metaphysical synthesis that is always the goal of the philosopher.

ABSTRACT OF PROFESSOR PRATT'S PAPER

The philosopher's duties are twofold; toward the general public and (if he be a teacher) toward his students and his institution. Toward the general public the philosopher has the same duties as have other intelligent citizens—to formulate an opinion on important questions and to use his influence in what he regards as the right direction. Whether he has duties *qua* philosopher which go beyond this will depend on the extent to which he can be said to be in possession of special knowledge or skill bearing on public questions. The philosopher as such may be regarded as a specialist in four fields—Psychology, Ethics, Logic, Metaphysics. As psychologist the philosopher may properly be regarded as a specialist on certain aspects of certain public questions; and with this special knowledge goes a corresponding duty. It is very doubtful whether in any of his three other capacities he has anything of special value to offer to the public.

He should refrain from spending more than a little of his time on practical issues for still another reason, namely because he has other things of importance to do; and if he devotes himself largely to solving the world's practical difficulties he will perforce neglect some of his more special duties and will bring pure philosophy into disrespect. The practical applications of philosophy are merely its by-products. The chief function of the philosopher consists in championing and keeping alive the spiritual life of man. Especially in the age in which we live is there great need of this.

ABSTRACT OF PROFESSOR WOODBRIDGE'S PAPER

An examination of the social effectiveness of philosophy can hardly fail to be an excursion in philosophy itself. We are led to make estimates and appraise ends. We turn a critical eye on our activities and seek some justification of what we choose. This implies the possession or discovery of standards. It implies, that is, a philosophy possessed or in the making. Philosophy and criticism can not be divorced.

Since this is so, it is clearly desirable and important that people generally and youth particularly should not criticize life extemporaneously. Criticism may not profitably be left to individual experience and reflection, unsupplemented and unilluminated by an appreciation of the great systems of ideas which have repeatedly and profoundly influenced opinions and beliefs. The study of philosophy is an essential part of the discipline of the mind.

No one seriously questions the validity of propositions of such generality and obviousness as the foregoing. Difficulty does not touch their validity, but does touch their conversion into practise. To make philosophy an essential part of the discipline of the mind has not been found easy. In this matter we are evidently confronted with one of the recurring problems of education which can not be solved once for all, but which must be repeatedly solved as best we can. The verbal solution is easy enough: since the study of philosophy is so essential, it should be made the essential subject in education. This is, however, impracticable. Disregarding wholly the need and pressure of other subjects, there are not enough teachers of philosophy with sufficient experience and power. For philosophy, in so far as it is the attempt to develop standards which effectively criticize life, can not be taught dogmatically. It must foster in minds the habit of reflection, rather than fill them with accepted knowledge. It demands in the teacher maturity, experience, a wide acquaintance with the arts and sciences, and a liberal mind. Otherwise it is apt to become idiosyncratic or a means of propaganda. It is not likely,

therefore, that philosophy can be made widely effective socially by teaching it as a part of the curriculum of education.

It may, however, become widely effective by influencing education generally. Whether philosophy is a real force in society depends less upon the teaching of it than upon the character of the system of education which prevails. By bringing to bear upon education able and sound criticism philosophers are likely to be heard. They can, through a sympathetic understanding of their age and its needs, help significantly to clarify them, and make leaders in education critical and conscious of what they are doing. Philosophers can do much to promote the freedom of the mind and to keep alive that sense of reality without which the aims of education become obscure and its methods illusory.

In a more restricted field, and particularly within their own borders, philosophers can do much to keep the habit of logical analysis sustained. It is among the commonest things in life that both popular beliefs and scientific and philosophical opinions are determined by the logical consequences of presuppositions fully as much as by the exigencies of life. The remedy for this is the sustained habit of analysis, which will show how far conclusions are motivated by the logical procedure from presuppositions and how far they are motivated by a consideration of facts. Such analysis can not be made once for all, but must be repeatedly made in view of social changes and the emergence of new ideas and discoveries. In spite of much current enthusiasm for what is called social philosophy and social psychology, there are remarkably few competent and dispassionate analyses of popular and scientific presuppositions. Such analysis would do much to clarify present tendencies and develop standards of sound criticism.

All this implies something besides teaching classes in philosophy. It means writing and publishing. And it means writing of a different sort from that which now largely prevails among our philosophers. They write too much for one another, with the result that they are not widely read and have little influence. Much of their subject-matter and many of their problems have only antiquarian interest. There is intended here no depreciation of genuine historical research or of abstruse studies. There is not enough even of these. But to be socially effective philosophers must write for society, about the things which interest society, and in a language society can understand. In this direction, education and criticism always afford abundant opportunity.

A. H. JONES,
Secretary.

REVIEWS AND ABSTRACTS OF LITERATURE

To the Editors of the Journal of Philosophy:

The enclosed abstracts were prepared for the files of the psychological department at this hospital by Mr. Gardner Murphy, of Columbia University, who is carrying on work in the department this summer. They are offered in the hope that they may be serviceable to other users of the JOURNAL.

Very truly yours,
F. L. WELLS.

McLEAN HOSPITAL,
WAVERLEY, MASS.

BURTT, HAROLD E.: "Employment Psychology in the Rubber Industry." *Journal of Applied Psychology*, 1920, 4, 1-17.

The work here reported was done at a large Canadian rubber factory. After familiarizing himself with the ways of the factory and its personnel, and showing the executives the nature of psychological testing, the writer obtained estimates of the abilities of workmen from inspectors, foremen, and head foremen, typical samplings being taken for each type of work. One estimate was averaged with a piece work score (correction being made for different distributions): the other two estimates were averaged.

The tests were designed to measure the various mental factors entering into specific tasks, rather than to create the work-situation as a whole. Most of them were group tests; there were 32 in all, from various sources. The tests were given in two installments, and each divided into two equal portions on the basis of time, so that four measures were obtained. The first half of the first and the second half of the second were averaged; the other two likewise; these two measures were then correlated with the estimates mentioned above.

A preliminary series of 20 tests, covering two hours, was given in the laboratory to typical members of various occupational groups. The scattering on some tests was much larger than on others. The averages of the 20 tests showed a hierarchy of accomplishment following in general the lines of the occupational hierarchy.

A ten-by-ten fold table was made, the variables being test-score and vocational ability; from it it was possible to predict the probability of a person with a given score falling within any decile of vocational ability. This was used independently of the special tests, for the purpose of grading ability in less specialized tasks, and of separating men fit only for unskilled labor.

Intensive studies for *special tasks* showed the following correlations between tests and ability:

| | | |
|----------------------------------|-----|--|
| Finishing tires | .61 | (three tests) |
| Handing out stock | .67 | (three tests) |
| Tire building | .16 | (thirteen tests) (low correlation probably due to difference of men with permanent work) |
| Clerical work | .56 | |
| General factory work operations. | .50 | (estimated) (five tests) |

In testing new employees, a form was used indicating that of men scoring 128 or above, 73 per cent. fall in the first three tenths; 21 in the next three tenths; 6 per cent. in the next three tenths; and 0 in the last tenth. For men scoring 103 to 127, the corresponding figures are 56, 31, 12, 1; *etc.* The application of this method helps much to cut down labor turnover, its success varying of course with the correlation between tests and ability. In the present case an effort was made to hire men falling within the first five or six tenths. The greatest need being for tire finishers, the tests for this were given; those not falling in the upper five or six tenths were given the tests for handing out stock or for general work. If again unsuccessful, they were recommended for unskilled labor; or some of the more alert-appearing were given the tests for clerical work. Individual interests were considered, but marked maladaptations were avoided when possible, the man being shown the meaning of the tests, and dissuaded if possible.

Almost all hired on the basis of the tests seem to have made good; all who fell below and were hired merely as a check on the method gave up the work in a short time.

The work has temporarily been dropped, but it will go on in new hands.

BALDWIN, BIRD T.: "The Function of Psychology in the Rehabilitation of Disabled Soldiers." Walter Reed Monograph and *Psychological Bulletin*, 1919, 16, 267-290.

This is a report on the writer's work at the Walter Reed Hospital, in applying psychological methods for therapeutic and vocational purposes. The work began with intensive study of a few cases (April, 1918); examination of mental status was supplemented by a more comprehensive personal and social study, and recommendations were made for educational and vocational guidance. It was soon found that the chief problem was to develop the right mental attitude in the disabled man, and to assist those who came in contact with the patient to assume a wholesome relationship toward him. The work developed rapidly; for several months 1,200 men were enrolled, and about 250 persons were engaged in the work.

Psychologists were frequently called on for mental age ratings, and officers in educational departments infused psychological methods into the work. The scope of the psychological work comprised: (1) Inquiries into personal and social history, and special aptitudes, (2) Intelligence tests; and special studies of cases where uncertain diagnosis or special disorder required it, together with suggestions for therapy, (3) Trade tests, (4) Measures of strength and extent of voluntary movements, (5) Comparison of advantages of various methods of teaching, (6) Development of morale.

Good personal rapport with patients was of great importance; and pity was avoided.

Trade tests supplemented vocational histories; men who were 80 per cent. efficient in army trades or specialties were retained until the armistice, and recommendations made to the Limited Service Board. Others were assisted in vocational selection, and given training. When ready for discharge, men were interviewed by the Federal Board for Vocational Education, and the trade tests and other information handed on to them.

Analysis of psychopathic patients, and medical social work were carried on. The latter reached large proportions, in interviewing men and their families before and after their time in the hospital, as well as during it.

The exercise of special muscle-groups was systematically undertaken, from the standpoint of vocational training rather than formal mechanotherapy. This was diversional, occupational, curative, vocational, or educational in emphasis, depending on the case. Both in the work-shop and in the ward, occupations were selected which exercised given muscle-groups, forcing the extension and flexion of less mobile members. Special importance was attached to the mental attitude of the patient, manly trades being given preference when possible, but any work being preferred to none. The aim was to help the man to regain confidence and the outlook of a normal man; to teach him the habit of steady work, and when possible to give him a man's occupation.

Arm-amputation cases were taught to use their remaining arms to take the place of those lost, and to rely chiefly on their healthy members rather than artificial members. Special training was given in the use of appliances attached to stumps, in the operation of different types of machines. Patients with artificial legs were practised in walking before leaving the hospital; and leg amputation cases were also taught the use of appliances, as in running of foot-looms, *etc.*

Such work as this is directly applicable to industry, and some states have adopted it in their hospital systems.

SCOTT, WALTER DILL: "Changes in Some of our Conceptions and Practises of Personnel." *Psychological Review*, 1920, 27, 81-94.

The handling of individuals and groups, as opposed to material things, has recently undergone great change. We have substituted, for the concept of the equality of men, the recognition of individual differences; and have come to realize the importance of such differences both to industry and to all other social enterprises. We have learned that men are governed not only by reason, but by sentiment. Education has ceased to be for us the mere increase of mental content, and has become the acquisition of useful forms of reaction, no matter where acquired; the responsibility of the personnel director extends to the training of the individual in all the activities he performs, whether industrial or social. We recognize the biological relationship between the worker and his work, the organic unity of the two; personnel work involves the shaping of the growth of this complex in forms of greatest industrial and social value. Finally, in vocational guidance, we have discarded the "infallible systems" as well as the guess-work methods of the past; experimental studies and the biological point of view hold the field. A small body of personnel workers can be of tremendous importance in the development of human efficiency during the coming century, for increased skill in handling men is likely to be as important for progress as was increased skill in handling things during the past century.

MAY, MARK A.: "The Psychological Examination of Conscientious Objectors." *American Journal of Psychology*, 1920, 31, 152-165.

An early report by Major Yerkes dealt with various examinations of conscientious objectors by psychiatrists, medical officers and Special Boards. In June, 1918, a special examination for conscientious objectors was sent out. The data here given are taken from about 30 reports, covering 20 camps. The subjects numbered about 1,000, and are considered typical of the 2,000-odd conscientious objectors in the army.

COMPARISON OF 94,000 WHITE DRAFTED MEN WITH CONSCIENTIOUS OBJECTORS
(ARMY TEST RATINGS)

| Grade | Draft | C. O. | |
|--------|-------|-------|--|
| A | 4.1% | 8.7% | |
| B | 8.0 | 15.2 | (46.5 per cent. of C. O. are above C; as compared |
| C + .. | 15.2 | 22.6 | with 27.3 in army. 28.6 per cent. of C. O. are be- |
| C | 25.0 | 24.8 | low C, as compared with 47.9 in army.) |
| C— .. | 23.8 | 16.8 | |
| D | 17.0 | 8.7 | |
| D— .. | 7.1 | 3.1 | |

EDUCATIONAL STATUS OF CONSCIENTIOUS OBJECTORS

| Grade Reached | Per Cent. | Grade Reached | Per Cent. |
|---------------|-----------|-------------------|-----------|
| 0..... | 100 | H. S. I..... | 42 |
| 1..... | 99 | H. S. II..... | 29 |
| 2..... | 98 | H. S. III..... | 24 |
| 3..... | 97 | H. S. IV..... | 18 |
| 4..... | 94 | Col. I..... | 12 |
| 5..... | 88 | Col. II..... | 9 |
| 6..... | 80 | Col. III..... | 6 |
| 7..... | 70 | Col. IV..... | 3 |
| 8..... | 58 | Professional..... | .5 |

Slightly over 50 per cent. of these men are Mennonites. There are 80 Friends; other denominations have fewer. Ninety per cent. of total are objectors on religious grounds; 5 per cent., on social; 3 per cent., on political; 2 per cent., on ethical. Many are non-voters, and the majority seem uninterested in social organizations or enterprises. Out of 718 cases, inquiry showed:

| | |
|--|-----|
| Willing to accept regular military service | 16 |
| Willing to accept non-combatant service | 160 |
| Willing to accept farm furlough | 275 |
| Unwilling to accept any kind of service that is in any way connected with the military machine | 267 |

Final dispositions of 2,100 cases:

| | |
|--|-------|
| Recommended for farm or industrial furlough | 1,500 |
| Recommended for Friends' Reconstruction Unit | 88 |
| Recommended for non-combatant service | 390 |
| General military service (insincere) | 122 |

About 65 per cent. were farmers; 90 occupations were listed. Ninety per cent. were American born.

Psychologists had to be ready to give opinions as to sincerity, and conducted examinations to this end. Boards of Inquiry reached conclusion of "insincerity" in 122 cases; correlation with psychologists' opinions is not known.

Most objectors are intelligent and sane. There are three main types: religious-literalist; religious-idealist; socialist. The last two types are intellectually and morally of high caliber.

An appendix gives the form of examination. It includes: (1) Mental Age. (2) Personal and Family History. (3) Educational History. (4) Occupational History. (5) Religious History and Practises. (6) Moral History and Habits. (7) Social History. (8) Grounds-and Degree of Objection (in detail).

MURCHISON, CARL: "Criminals and College Students." *School and Society*, 1920, 12, 24-30.

It is not a lack of intelligence that makes one a criminal; neither

is it a possession of intelligence that causes one to become a college student. The army Alpha test gives the same median intelligence (62) for 3,328 white criminals as for the white members of the army. Other studies of white and black males and females show no preponderance of subnormality on the part of criminals, except that white fallen women, as would be expected, belong largely to the subnormal group.

The median of 1,000 students at Miami was 129, but the individuals varied all the way down to 50 (Alpha). Analysis of A-grades given in curriculum subjects shows median intelligence of students succeeding in Philosophy is 162; of those succeeding in Home Economics, 126; with other subjects ranging between. The intelligence of students is thus correlated with the subjects in which they attain success; in general, those succeeding, say, in philosophy have no trouble with home economics, but the converse is not true.

The majority of those who dropped out during the college year "did so because there was no subject concrete enough for their comparatively feeble intelligence."

In a group of criminals classed according to crime, the intelligence of offenders against persons was seen to be strikingly below the intelligence of offenders against property; in general, the former were below the median army figure, the latter above it. Army data show that the variation between different occupations is from 127 to 35 (medians); the higher the figure, the more abstract the profession.

President Lowell's figures show that college students specializing in philosophy and mathematics do excellent work in both law school and medical school, while students following various other college courses do markedly better in medical school than in law school. In general, the success of the groups at law school shows the groups arranged in the same order that was established at Miami; but the various groups show roughly equal ability at medicine, as would be expected from the low standing of natural science on the Miami list. In each case a high group can reach down but a low group can not reach up.

"The difference between the average individual and the average criminal is not a difference that can be expressed in terms of intelligence." The danger of criminality appearing in a person is, however, often due to the attempt to succeed at a given level which is too high for the individual; together with the habit of "non-conformity," failure at a task may lead to criminality on some level suited to the individual. In applying the above, *student advisers* should help students to find their level; *crime prophylaxis* can show people how high they could reach in lawful occupations; *vocational*

guidance (except for low-grade feeble-minded) must take full account of the aptitudes of individuals, with especial reference to their *environment*, work being one of the most important elements of the environment to which the individual must be happily and permanently adjusted.

JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. March-April, 1920. *Quelques particularités de la langue et de la pensée chinoises (suite)* (pp. 161-195): M. GRANET. — Reaches the conclusion that the problem for the Chinese is that of transforming the spoken language so as to render it capable of phonetic transcription, and the development of a language evading monosyllabic structure and installing the use of derivations and grammatical forms. *Les idées de temps, de durée et d'éternité dans Descartes* (pp. 196-233): J. VIGIER. — This, the first article, is concerned with the question of time in the physics of Descartes and with psychological duration, in connection with the doctrine of continuous creation. *L'idéalisme et les conceptions réalistes du Droit* (pp. 234-276; first article): G. DAVY. — Realism breaks on the following dilemma: "either it remains strictly faithful to the rigorous logic of its too narrow method . . . and then it is powerless to take account of the ideal value of right, or it seeks to take account of this value, but, through the failure to comprehend the true meaning and bearing of the sociology which it invokes . . . it succeeds only by an appeal more or less unconscious and contradictory to the metaphysical idealism that it combats." *Revue générale. Education and démocratie*: ANDRÉ LALANDE. — A comparison and contrast of Dewey's *Democracy and Education* and Ludovic Zoretti's *Education. Analyses et Comptes rendus*. Paul Oltramare, *Essai de biosophie théorique et pratique*: P. MASSON-OURSSEL. J. Durantel, *Le retour à Dieu par l'intelligence et la volonté dans la philosophie de Saint Thomas*; J. Durantel, *Saint Thomas et le Pseudo-Denis*: ETIENNE GILSON. Gustave Geley, *De l'inconscient au conscient*: G. L. DUPRAT. Albert Kaploun, *Psychologie générale tirée de l'étude du Rêve*: G. L. DUPRAT. *Revue des Périodiques*.

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NOTES AND NEWS

A MEETING of the Aristotelian Society was held on November 8, 1920, Rev. W. R. Inge, Dean of St. Paul's, President, in the chair. The President delivered the inaugural address on "Is the Time Series Reversible?" The cinematograph has illustrated the possibility of observing events in a reversed time order; is it possible that we might actually move through time in a reversed order so that effects would be thought of as causes? If the positions of earlier and later, and of past and future, belong to appearance and not to reality, the real order will be a series, but a series without change and without time. The psychological theory of the "specious present" was criticized and also the scientific concept of cause. In regard to the first it was suggested that our consciousness of the present is our point of contact with supra-temporal existence, and that our tendency to identify this experience with the moving line which divides past from future is an error. Immediacy belongs only to a supra-temporal mode of intuition. With regard to the conception of causation it had been almost driven out of natural science and it would be a good thing if it were driven out of philosophy too. After alluding to the theory of Plato and of Plotinus, he concluded with the view that Time-Succession seems to belong to a half-real world and to share its self-contradictions. We are partly in this half-real world and partly out of it. We are enough out of it to know that we are blind on one side, which we should never know if time were real, and we inside it.

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

GIVING UP THE GHOST

STUDENTS of sociology are well aware that primitive man through his failure to understand causal relationships found himself committed to a battle with ghosts. His arrow had its indwelling spirit, which it was to his advantage to cajole into friendship. He had to walk warily all his days within the strict convention of taboos in order to shelter himself from the awful wrath of affronted spirits. He recognized that he could not escape them entirely, although he felt that he might, with good fortune, entrap or outwit them. With this intention he made a false exit in the wall of the death hut, to prevent a restless ghost in its homesick wanderings from finding the true door and returning through it, bringing consternation to the family circle it had left. For this purpose, too, were the cunning incantations of the medicine men, who were able by their skill to imprison mischievous ghosts in hollow tubes, or by a display of tempting foods lure them from the bodies of the sick men they were tormenting. Yet these were, at best, but devices, and primitive man felt himself largely the victim of the merciless whims of spirits, to whom he paid their toll of fear and sacrificial observance even when he could not hope to control or evade them.

The history of man's progress from primitive animism to the scientific enlightenment of our day has been marked by the surrender one after another of beliefs in the ghosts which thwarted his remote ancestors. This he has accomplished by the discovery in their places of definitely describable relationships between physical things, with the result that he no longer fears where he can manipulate. We do not to-day treat a sick man as one possessed, jumping upon his prostrate body and beating upon drums to free him from the evil spirit causing his pain. Instead of treating sickness as a spirit incarnate we have progressed to the point of treating it as a complex relationship in which some factors are abnormal. Thus most of us know the symptoms that indicate that we have a cold, but few of us are so primitive in our thinking as to regard the symptoms as indicative of the presence in our bodies of a mysterious something called a

cold, which is distinct from the sum of these symptoms. Even when language betrays us into saying that a cold affects one person in one way and another quite differently, we are not regarding the cold as an agency, much less as an agent, but are merely recognizing a certain flexibility in the character of the relationships which the word is used to cover.

In other fields of human attainment, we have not succeeded to the same degree in ridding ourselves of this formidable fallacy; only occasionally, however, do we recognize that we are unduly complacent in crediting ourselves with having outgrown the scholastic philosophy which attributed distinctive existence to Forces and Essences of all kinds. We find Spencer writing in his *First Principles*: "We come down, then, finally to Force as the ultimate of ultimates." Thus to Spencer, Force, when most strictly conceived, was as much a thing in its own right and in addition to its manifestations as the *Horror Vacui* was to scholastic thinkers.

The same scientifically agnostic attitude with its tendency to distinguish between the characteristics of phenomena and their unapproachable core of reality, to the disparagement of the former and the over-valuation of the latter, appears in Henry Adams's chapter in *The Education* entitled, "The Dynamo and the Virgin." In this chapter he takes the dynamo as typical of physical force and the Virgin as an example of spiritual force potent to lead men to build cathedrals, to create works of art, and to establish ritual. In comparing these two kingdoms of force, he says, "They are as different as a magnet is from gravitation, supposing one knew what a magnet was, or gravitation, or love." Now there is to-day a very considerable school of scientists, inspired in part by such men as the late Professor Mach, who would make answer to this statement, maintaining that we do know what a magnet is when we have managed to describe with scientific accuracy its structure and its functions. So, too, of gravitation; it is its manifestations. So, too, of love; it also is what it expresses itself to be.

To take an incident from my own experience: I remember, as a sophomore, stopping to question my professor of physics at the close of a series of lectures on light. My question, with all its unsuspected assumptions, was whether he could not tell me very simply what light is in itself, quite apart from its manifestations. With all his genius for teaching it is doubtful whether my professor guessed what new reaches of thought were opened to me by his answer. He replied, in effect, that description when full and accurate is explanation. No one could tell me in a word what light is, or disclose its essence, since to know a thing truly is the same as possessing a

wealth of information about it. It was a momentous day for me, for my world appeared suddenly in clearer perspective and, as has always happened with the coming of the dawn, the lurking ghosts fled.

But in spite of the multitude of ghosts that have been laid as men have realized that one abstract term after another such as sickness, gravity, force, life, or nature, can be understood only when resolved into the concrete relationships from which men manufactured it in the course of the years, there are still ghosts abroad which pass among us with scarcely a challenge.

In biology, the challenge has been given and the once useful ghost known as the Vital Principle, or Entelechy, is now struggling for the right to render biological laws indeterminate. Moreover, it looks like a losing struggle.

In political circles, another ghost powerful and, as many feel, sinister, that great superbeing, the State, has long defied challenge, enjoying an Olympian immunity based on what is in reality religious veneration. But to-day, as never before, men are scaling Olympus to see what manner of beings dwell there, and already men are returning from the adventure with reports such as the one on "Communal Ghosts and other Perils in Social Philosophy" (Morris R. Cohen, this JOURNAL, December 4, 1919). It is significant that the common man, as well as the specialist, feels a vital interest in this examination.

But when all the other ghosts shall have yielded place to the relationships, physical, biological, or social, which their presence obscured, there will still remain one ghost so firmly entrenched in countless ways that it will not come under general suspicion for many years. And that one ghost is mind. Few to-day, even among specialists, recognize that mind is like gravity, or like sickness, or like "vital principle," simply an abstract name for certain concrete, describable relationships.

Even among the psychologists, we find that in many cases this ghost enjoys a curious immunity—curious because, in hunting down other ghosts very like mind, psychologists have been proud to be in at the death. Few psychologists, indeed, would to-day think of writing of the Will or the Memory. Witness the cordiality with which they have united to criticize Bergson for apparently treating will as a psychic force or a sort of incalculable entity. *Élan vital*, they agree, is as true a ghost as ever confronted man, and is quite as irresponsible. With equal unanimity, writers of modern texts of psychology by portraying the concrete phases of voluntary activity make an effort to disabuse the student of the notion of the will as a unitary force. They teach, in brief, that will does not exist as a

thing apart from the various form of voluntary activity we experience. As an abstract term it is useful in simplifying language and becomes dangerous only when it imposes on thought as the name of an entity.

Arnold Bennett fell into this error by uncritically regarding the will as an agent in his essay called *The Human Machine*. He wrote that any one knows that "the will, forcing the brain to repeat the same action again and again, can modify the shape of his character as a sculptor the shape of damp clay." If Mr. Bennett grants this much personality to the will, and yet evidently distinguishes between it and character, and equally, also, between both and the owner of the brain, who likewise owns the will and the character, it would take more than the barking of the little dog of the nursery rhyme to ascertain who's who in each one of us.

This tendency on the part of psychologists to reinterpret will as a term to cover certain types of relationships, occurring within the wider relationship of behavior, is even more apparent in the reinterpretation of memory. In his book called *Life and Habit*, Samuel Butler exhibits the older and now discredited tendency to treat memory as so clearly a thing that it can be inherited quite as readily as bodily features, and, when so inherited, appears as instinct, or, as he elsewhere calls it, as unconscious memory. Here the ghost-rôle, which the so-called faculty of memory is called upon to play, assumes traditional shape. This inexplicable, ungovernable something, waiting behind the describable everyday self to insert its unforeseen prompting or veto, is on a par with "the familiar" to which a Shakespearian mob is so willing to credit unexpected eloquence or decision in a leader. But for the psychologist, it is more customary now to speak of memories instead of the Memory, and these memories are open to classification, observation, and experimentation quite as our other characteristics are. Nevertheless, even among the psychologists, who no longer speak of the Will, or the Memory there are many who still speak of the Mind, while among the majority of men, who have taken comparatively little thought concerning psychological and philosophical problems, few indeed could be found to admit that, like gravitation or sickness, mind may be merely a class name for certain types of relationships and not a designation for something in itself.

As long ago as 1904, William James formulated the problem under the title "Does Consciousness Exist?" That he did so was all the more remarkable since when he wrote his *Principles of Psychology* he had accepted as a working hypothesis the existence in each of us of a mind which acts upon our bodies in voluntary ac-

tivity and is in turn influenced by the fortunes of the body. He confessed later a growing distrust of this position and said that he finally suggested his doubts to his classes. In the later years of his life, as we know, he labored brilliantly to define mind as a certain type of relationship.

In the essay to which I have referred, he said that breadth moving outwards between the glottis and the nostrils—breath, which was ever the original of spirit—is, he was persuaded “the essence out of which philosophers have constructed the entity known to them as consciousness. That entity is fictitious, while thoughts in the concrete are fully real. But thoughts in the concrete are made of the same stuff as things are.”

Before one can enter with any confidence upon such a radical re-interpretation of mind as James proposed, he must be as thoroughly convinced as James was that the historical solutions of the mind-body problem are untenable.

It is impossible within the limits of this paper to discuss the claims of materialism to having explained the problem by the statement that mind is a form of energy, or of matter in motion, or yet of Berkeleyanism which proves that all reality is mind or a product of mind, and that matter is a fiction. Both evade the real problem and raise new difficulties. There still remain, however, those other historical solutions that have become our current common-sense attitudes, and each of which endeavors to fix the relationship between mind—the indwelling ghost—and body its instrument or, at least, its habitat.

Descartes can hardly be improved upon for a statement of interactionism, the first and simplest of these positions. He knew that our nerves transmit certain physical disturbances to our brains. It is of little moment for our purposes that he believed that the nerves were hollow tubes filled with “animal spirits,” but it is distinctly significant—for it is what common sense still believes—that he held that when stimulation reached a certain part of the brain, the pineal gland to be exact, which he considered the seat of the spiritual element, then the hitherto purely physical activity was changed into psychical activity. On the other hand, if it was a case of volition instead of sensation, the psychical being, which had its seat in the pineal gland, would tip the gland in such fashion as to direct the animal spirits in a certain course, whereupon the mechanism of the body provided for the completion of the intended act.

It is plain to see that such an account of the interaction of mind and body runs counter to the principle of the conservation of energy, and for this reason, as well as for other considerations equally ap-

parent, other interpretations of the relationship have been essayed. There is Huxley's attempt to conform to the principle of the conservation of energy while still recognizing body and mind as distinct. He held that the bodies, whether of men or of animals, are marvelous automata, but are not merely automata because consciousness accompanies their automatic behavior. This renders consciousness a spectator, a powerful ghost, but still a ghost dwelling in miraculous fashion within man.

Even Matthew Arnold, who differed so vigorously from Huxley on many points, seems in entire agreement with him in this regard. One has but to read "The Palladium" or "The Buried Life" to recognize the quality of sadness in Arnold's poetry arising from the sense of duality of selfhood, and the further conviction that the psychical part of our being is remote from the activities of our body. "We visit it by moments, ah, too rare!" It is hidden, buried, obscure. In verses entitled, "A Sonnet Written in Butler's Sermons," he protests against the analysis of man's life into affections, instincts, principles, powers, impulse, reason, freedom, and control, calling it "vain labor"—vain because "man's one nature," where none may see,

queenlike, sits alone,
Centered in a majestic unity.

Possibly one may object that Arnold was writing as a poet and not as a psychologist and that he would be the last to accept a strict interpretation of his words. That is quite possible. But the pity is that the reader of Arnold who has found in him so much that is sweetly reasonable and has learned to trust his critical ability will be unlikely to be on his guard against confused thinking, when in these poems he finds Arnold writing with all the sincerity of deep feeling. And it is, of course, through the poets, the novelists, the preachers, even more than through teachers and the philosophers themselves, that great traditions are established among the people.

But to return, equally, whether we hold with Descartes that mind directs the body, or with Huxley that it is merely a spectator, mind itself is inscrutable, and the attempt to analyze it is, as Arnold said, "vain labor." Why it must necessarily be so on Huxley's spectator-theory is immediately evident. Any phase of conduct which a psychologist might study could by no chance yield any data other than those throwing light on the automatic possibilities of the nervous machine. For consciousness is, by definition, something other than behavior, being merely an attendant of it. It can not, therefore, be manifested in conduct, except as by analogy, the turning of the wheel is manifested in the squeak which accompanies it. The same

criticism holds for the closely related theory of psycho-physical parallelism, according to which, as has been well said: "intelligence adds nothing to the situation except itself" (Bode: *Creative Intelligence*, p. 251). It takes a moment's consideration to see that a similar difficulty exists in Descartes's theory. What interactionism such as Descartes's says is, in effect, that the body in all its intricate organization does not suffice to account for the fitness of the organic responses to the complexities of the environment, and that another factor, namely mind, must account for that. Truly, yes, but granted that mind pulls the right strings in this puppet show of life, what is mind? How is it informed of the strings to pull? In what sense can it have purposes? Does it hunger, or does the body? The answer when it is granted, sweeps one far beyond the familiar limits of Descartes's neat dualism. It is that the ghost called mind, which dwells within us, has ways of knowing, and ranges of knowing which far surpass those limited revelations made in consciousness. We are told of a sub-conscious self, and of supra-intuitional faculties which indicate immeasurable differences between mind as we know it, faultily and incompletely, and mind as it is in itself, unlimited and one.

Such a conception of the self we find in Emerson's "Oversoul." It is a pantheistic conception built upon a belief in one supreme and unitary mind or spirit, which in some inexplicable way pours its thoughts through the channels of human brains. "Man is a stream whose source is hidden." "Always our being is descended into us, we know not whence." But it does not explain the mind we do know, to say that it is a fragment of a much greater mind which we can not possibly know. Mind is still ultimate, and so long as it is sharply distinguished from conduct it escapes all observation and description.

Before the supernaturalism of this conception the modern man is theoretically more helpless to mold his conduct or direct his own life than primitive man was to control the ghosts which tenanted his world. Already as the implications of the historical positions have come home to men scientifically interested in this problem, they have repeated James's question, whether consciousness as such does exist. Having once been bold enough to deprive mind of the traditional privilege accorded ghosts, namely to refuse to submit to questioning, they were in a position to discover not only the immemorial fallacy of the old conception, but clues, also, to a scientific understanding of the mind.

In the middle of the last century, Comte announced what he called the law of the three stages; he believed there was a law of

progression in men's thinking, whereby, outgrowing both supernatural and metaphysical modes of explanation, man would at last come to the positive or descriptive mode. Comte observed, moreover, that if we were to make a cross-section of any period we would find all three stages of explanation employed as standards at the same time since wherever a positive procedure is difficult, because of the complexity of the subject, or prejudice, or emotion on the part of the thinkers, we might expect to find relative retardation.

The analysis of mind presents precisely such difficulties, but now, at last, men are beginning to say that this most stubborn of ghosts must make room for what is valuable—a description of consciousness as a unique relationship which may maintain on occasion between a living organism and its world.

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A GLIMPSE INTO MYSTICISM AND THE FAITH STATE

THERE have always been mystics and always will be mystics, according to Bertrand Russell in his essay on "Mysticism and Logic," and their experiences play a part in both religion and philosophy.

Now the ordinary man will ask, what is a mystic and how can he be accounted for? The mystics themselves claim that they exercise a mysterious faculty of the mind, common to all men to be sure, but not ordinarily used, at least not in the practical affairs of every-day life. Such an assertion is not only a challenge to one's scientific curiosity but also to one's desire to reach these rich and deep experiences of life. Certain modern philosophers, notably James, Royce, Eucken, and Bergson assign a very high place to the mystical state of knowing, or intuition, as furnishing new and valuable truths in philosophy, while the mystical faith state supplies the groundwork of all religion. James says, "The truth of truths might come in an affirmative form," while this paragraph from Dodson sets forth the view of Bergson.

The implication is that so far as we do know what anything is, what we are, what life is in us and in the universe, what God is, we know it through insight and not through reasoning. The philosophical view of the world would be that of the man in whom both of these complementary powers of the mental life were well developed. His intellect would look out and ask questions about the material world, questions which the intellect, using scientific methods, can answer. The same intellect would also look in and ask questions about the heart of life, both of self and of God, and instinct, developed into intuition, would give a satisfying reply.¹

¹ Dodson, *Bergson and The Modern Spirit*, p. 130.

Of late the mystics have not only tried to impart to us something of the nature and content of their experiences, but they have attempted to describe and analyze the process of attaining the mystic state. After giving a number of quotations it is the purpose of the writer to "accomplish the impossible" and discover enough of the mysterious faculty to give it a psychological classification. The effort will probably end in failure but at any rate she will have registered her conviction that it is susceptible of such classification, if not now, sometime in the future when we have reached a fuller knowledge of our more elusive psychical processes. The first extract is taken from Russell:

There is, first, the belief in insight as against discursive analytic knowledge: the belief in a way of wisdom, sudden, penetrating, coercive, which is contrasted with the slow and fallible study of outward appearance by a science relying wholly upon the senses. All who are capable of absorption in an inward passion must have experienced at times the strange feeling of unreality in common objects, the loss of contact with daily things, in which the solidity of the outer world is lost, and the soul seems, in utter loneliness, to bring forth, out of its own depths, the mad dance of fantastic phantoms which have hitherto appeared as independently real and living. This is the negative side of the mystic's initiation, the doubt concerning common knowledge, preparing the way for the reception of what seems a higher wisdom. . . . The mystic insight begins with a sense of mystery unveiled, of a hidden wisdom now suddenly become certain beyond the possibility of a doubt. The sense of certainty and revelation comes earlier than any definite belief. The definite beliefs at which mystics arrive are the result of reflection upon the inarticulate experience gained in a moment of insight.²

The above quotation deals more with the philosophic type of mysticism while the next from Addison is of the religious type.

The Mystic, that he may see God, get any the least glimpse of him, must prepare himself, and having stripped from him everything that would hinder of sight, hearing, touch, even thought, then he comes to the next and most important step of all, that which stamps him, as soon as he takes it, as a Mystic, different in this respect from other creatures; he sits down in this utter nakedness and in silence and without effort at last waits for God to speak in the still small voice, or to show himself in some vision or to give some touch upon his heart by which he may be known. It is the concentration of all the powers upon "one point." It is the "inward look." In quiet and in silence the soul now attends intently. By concentration all the little sounds have been stilled. The efforts of recollection to bring the mind and heart and will into harmony have succeeded and so relax. The soul is at peace. The busy thoughts are hushed, the unruly will is silenced. The attitude is that of listening. No longer is it content to do. It finds its satisfaction in being, and its being becomes one great receptivity. It can say now, "Speak, Lord, for thy servant heareth" and not mistake heavenly sounds for earthly. It is in the ante-room of the Presence. The next move is God's.³

² Bertrand Russell, *Mysticism and Logic*, pp. 8, 9.

³ Addison, *The Theory and Practice of Mysticism*, p. 208.

Addison gives the following account by the old German mystic Boehme of attaining the mystic state which seems to presuppose a great degree of piety and faith as already possessed.

Cease but from thine own activity, steadfastly fixing thine eye upon one point. . . . For this end gather in all thy thought and by faith press into the center, laying hold upon the word of God which is infallible and has called thee. Be thou obedient to this call and be silent before the Lord, sitting alone with him in thine inmost and most hidden cell, thy mind being centrally united in itself and attending his will in patience and hope.⁴

This outburst from Saint Augustine, on the other hand, describes a soul who is still in bondage as it were, but has a vision of what awaits him:

Who can disentangle that twisted and intricate knottiness? Foul is it: I hate to think on it, to look on it. But for Thee I long, O Righteousness and Innocency, beautiful and comely to all pure eyes, and of a satisfaction unsating. With Thee is rest entire, and life is imperturbable. Whoso enters into Thee, enters into the joy of his Lord: and shall not fear, and shall do excellently in the All-Excellent. I sank away from Thee, and I wandered, O my God, too much astray from Thee, my stay, in these days of my youth, and I became to myself a barren land.⁵

In studying these descriptions we find that certain points stand out pretty clearly and those of the preliminary stage are to be considered first. All mention that there is a feeling of dissatisfaction with the present condition either in respect to knowledge or the spiritual state. Russell speaks of the "doubt concerning common knowledge"; Addison, of "bringing the mind and heart and will into harmony." It is Saint Augustine out of his real suffering who voices this dissatisfaction most strongly, and Addison in another place has spoken of this lack of harmony within oneself as preceding the great desire for union with God, which is the first step in the mystic state itself. From the feeling of insufficiency and distress the mind concentrates on the thing it desires, be it a truth or a spiritual state.

The first striking characteristic of the mystic state itself is a belief in insight, or intuition, or in union with God. There is hope, confident expectation that relief or revelation will come, "an awakening of the soul," to use a religious expression. This is in the nature of a mediating state between the preliminary struggle and the second stage which is that of stripping the soul, clearing the mind, and leaving it as nearly as possible empty, open, and receptive. This seems to be the crux of the whole matter from a psychological point of view and is the necessary sequence of the preceding struggle in which there was intense concentration.

⁴ *Ibid.*, p. 53.

⁵ *Confessions of St. Augustine*, Bk. II., Par. 18.

A third characteristic is the inner nature, the inwardness of the state. It is as if it came from the inner depths, the subconsciousness of the individual. With this is coupled a fourth distinguishing mark, the feeling of spontaneity, the experience seeming to come quite without connection with anything previously in the mind. The fifth peculiarity is a conviction of the validity, the certainty, even the infallibility of the ideas or experiences. Lastly, there is the unitive state denoting a condition where life can be perceived and felt as a whole and where the truths dealing with the unity rather than the diversity of the universe and humanity and God can be known, "intuited."

The mystic states are accompanied and followed by feelings of relief, joy, satisfaction and a sense of power and love, with a desire to carry out one's whole life in harmony with the new experience. To be quite accurate in any analysis the two states of religious and philosophic mysticism should be quite definitely separated, although having so much in common. However, in this preliminary sketch it has seemed advantageous to treat them together.

The first point to be noticed is the great difference between the preliminary or preceding stage and the mystic state itself. All mystic writers emphasize the necessity of great desire; at least the Christian sacred writings are full of it and James very acutely says: "Things reveal themselves soonest to those who most passionately want them, for our need sharpens our wits. To a mind content with little, the much in the universe may always remain hid."⁶ The longing is the culmination of a great struggle between two sets of ideas or habits of conduct in which there has been the greatest mental activity, for nowhere do the psychical processes entail such effort as in the making of decisions. So keen does the strife become that one is ready to make a decision in any way if only it will bring relief. Hence the seeking of the opinion of others or the resort to fortune telling or the flipping of coins. The individual inclined to piety naturally turns to God in prayer and feels that he can get the truest result by a cessation of all activity and a stillness and receptivity which can only come by complete relaxation. The following account of the mystic processes of Wordsworth described by Caroline Spurgeon and quoted by Addison gives us the clearest account of how one who is accustomed to enter the mystic state sets about it. The great struggle is not there, but there is nevertheless the relaxation of the will.

He found that when his mind was freed from preoccupation with disturbing objects, petty cares, "little enmities and low desires," that he could then reach a condition of equilibrium, which he describes as a "wise passiveness," or a

⁶ James: *A Pluralistic Universe*, p. 176.

"happy stillness of the mind." He believed this condition could be deliberately induced by a kind of relaxation of the will, and by a stilling of the busy intellect and striving desires. It is a purifying process, an emptying out of all that is worrying, self-assertive and self-seeking. If we can habitually train ourselves and attune our minds to this condition, we may at any moment come across something which will arouse our emotions, and it is then, when our emotions—thus purified—are excited to the point of passions, that our vision becomes sufficiently clear to enable us to gain actual experience of the "central peace subsisting forever at the heart of endless agitation."⁷

Now if relaxation can be shown to be a predominating state of the mind, the opposite of attention, to be attained either through sheer weariness of strife and tension or by training in ridding consciousness of all ideas and emotions, it would seem that this state might be the mysterious faculty referred to, the inner organ or eye, just as attention is the predominating state of all that goes by the name of reasoning processes. Hitherto the writer has considered the opposite of attention to be vacuity, indifference, or distraction, following James in this respect, but a closer analysis seems to show that they are merely imperfect forms of attention, intermediate between attention and relaxation. If we compare the vigorous, directed action of the body with the aimless activity when there is a state of comparative rest and these with the state of complete relaxation which only comes in deep sleep or by an act of the will, we shall perhaps see how these states may exist in the mind. The normal form of consciousness is to be diffuse, exhibiting varying and discontinuous states, while the concentrated, tense condition focusing to a point is the exception. Likewise the complete state of relaxation is rare and has never, so far the writer knows, received the consideration from scientific psychology which its importance calls for.

In popular writings and especially in the literature on faith healing in all its forms we find much said about relaxation and the part it plays in the health of the mind and the body. Dr. Cabot describing the methods of the well known Emmanuel clinic says: "The patient is put in a comfortable chair in a quiet room, where he is told to relax himself and try to go to sleep, *etc.*" preparatory to receiving the suggestions which are made to him. On another page Dr. Cabot says:

When persons go into a house of worship, put themselves into time-honored, habitual position, relax themselves, turn away their minds and their attentions from all outside cares and thoughts, and make themselves so far as they can receptive to the truth that is to be spoken to them and by their own lips, I do not see how we can fail to see that something is going on akin to what I have called suggestion in the relaxed condition. I do not mean to be understood to say that that is the whole of the prayer. I mean that it is the human side of prayer. . . . I

⁷ Addison, *loc. cit.*, p. 167.

am thinking of prayer as the opening of the man's soul to God, the opening of himself to the sources of his power. There are powers, as we all know, that we have never drawn upon. We need to open our selves to those powers.⁸

Thus if it is the relaxed condition which is necessary for healing and if it is the relaxed condition which is necessary in true sincere prayer, we see how it is that prayer is efficacious in all kinds of healing, whether by drugs, by manipulation, or by suggestion. We have the authority of James that it is thus useful. He says: "If any medical fact can be considered soundly established, it is that prayer often contributes to restoration to health, and should be encouraged as a therapeutic measure." Bruce from whom the foregoing extract is re-quoted says: "By so praying they produce in themselves a pleasurable emotional state, which contributes directly to recovery by easing the strain of worry, anxiety, and self-centeredness incidental to illness."⁹

Now if from our study of mysticism and the faith state it seems that there is a predominant state to be called relaxation—not the negative form of attention, but its positive opposite—it still remains to be seen whether it explains the other peculiar characteristics. To that end some sort of workable definition of relaxation must be attempted. It is the fixing of the mind on one thing, but by a process of surrendering ideas, letting them fall away, as it were, so that the whole field of consciousness may be free from opposing forces. It differs from attention in that the latter holds its idea in a focus against a field of opposing ideas, thus creating a feeling of strain, while relaxation is accompanied by a feeling of relief and ease. Instead of effort there is a condition of expectancy, or hope that the thing fixed upon will come and will bring satisfaction, though consciousness may be very vague as to what this may be.

Identifying then relaxation with the stripping of the soul, the laying of it bare and open, would not any idea which entered the field of consciousness appear to come from the subconscious, from an "inner depth," "a power above," according to the preconceived theory of the matter? Would not any idea coming thus without association with other ideas, since the field is empty, carry the feeling of spontaneity with it to a marked degree? Before giving a citation from Eucken let it be understood that the writer does not say that relaxation with all its accompaniments is all there is to religion, but that the work of religion is done while the mind is relaxed in the sense given above. He says:

But there is a further and more specific manifestation of religion; for it is the function of religion not only to infuse a sense of the whole into the work

⁸ Cabot, *Psychotherapy and Its Relation to Religion*, p. 49.

⁹ Bruce, *Nerve Control and How to Gain It*, p. 197.

of life, but by foregoing all appeal to the medium of work, to realize the Whole through direct communion, thereby unsealing the sources of a deeper life.¹⁰

Again, is not the fact of the field of consciousness being empty, expanded, accountable for the conviction of certitude, of infallibility, since any idea or experience coming into the mind unchallenged, wastes none of its force in maintaining itself against ideas opposed or at least irrelevant to it? Again one does not wish to be misunderstood and say that ideas coming in this way may not have especial power and a greater chance of being correct than ideas coming in some other way. They may come from the World Mind, from God, but, from the psychological standpoint merely, the fact of their coming in an affirmative way with all the impressiveness of occupying consciousness entirely alone, might give them this infallibility, or feeling of it. Bergson says somewhere, that incomplete and fugitive as intuition is, it is in each system what is worth more than the system itself and what survives.

The last characteristic, what the mystics call the unitive state, the power to know the complex flux of life as a whole, to unite the divided self into one harmonious personality, may also be accounted for psychologically by the state of mono-ideism which prevails when all other ideas have fallen or been driven away. The idea of eternity, of one space, of one God, of the Absolute, one gets hold of in these unitive states, but as James points out, as soon as reason starts to work we know them as parts, we posit something beyond and outside, something to make a relation, for relating, associating is the prime function of logical knowing. As soon as two or more ideas come into the field, above the threshold, there must be this business of relating going on, and so the world appears plural. Absolutism and mysticism go together by nature it would seem. Absolutism is the cause and the result of mysticism, in that the soul in its longing for unity induces the mystic state in which the world appears a whole.

Although this paper is largely made up of citations, it seems impossible to forego this one from the Hindu philosopher and poet Tagore:

Knowledge is partial, because our intellect is an instrument, it is only a part of us, it can give us information about things which can be divided and analyzed, and whose properties can be classified, part by part. But Brahma is perfect, and knowledge which is partial can never be a knowledge of him.

But he can be known by joy, by love. For joy is knowledge in its completeness, it is knowing our whole being. Intellect sets us apart from the things to be known, but love knows its object by fusion. Such knowledge is immediate and admits no doubt. It is the same as knowing ourselves, only more so.¹¹

¹⁰ Eucken, *The Meaning and Value of Life*, p. 125.

¹¹ Tagore, *Sadhana*, p. 159.

But for all these extracts quoted, the writer must say the theory that mono-ideism was better attained through a process of relaxation, a surrender, a dropping away of ideas, than through a process of concentrating ideas, bringing them to a focus, had its inception in a rather intimate acquaintance with a mystic of the old type, a woman who believed she had "second sight," who believed that she had messages from the spirit world, who knew God face to face. She was kind enough to try to describe her mental processes and always it was freedom from unworthy or unkind thoughts, freedom from worry, a desire to do good and to be good which was necessary for the complete state of relaxation into which she entered when she desired to use any of these special gifts. Many a time as she went about her work of healing, for she was a masseuse by profession using "magnetic" or "faith" healing as the situation demanded, the writer has seen her drop into the relaxed state.

And still it is all mysterious even though we classify and name it, as are all the processes of consciousness for the matter of that. But it is the real thing, an experience which comes to all men at times in a vague and imperfect form, and to a few men in its perfection. But it is given to but few men to be geniuses in any line and the most of us are content to plod along with our second rate faculties and powers.

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REVIEWS AND ABSTRACTS OF LITERATURE

Syndicalism and Philosophical Realism. J. W. SCOTT. London: A. & C. Black. 1919. Pp. 215.

Speculations in politics and social science, no less than in philosophy and psychology, have no doubt been vitiated by an extreme "intellectualism." Mr. Graham Wallas, whose position is on the whole anti-intellectual, has given an important warning against going too far in the opposite direction. He asserts that "the loose anti-intellectualism which now threatens to take the place of the old intellectualism may prove to be infinitely more dangerous in the twentieth century."¹ Mr. J. W. Scott's *Syndicalism and Philosophical Realism* is a vivid portrayal of the close connection between the iconoclasms of revolutionary socialism and certain anti-intellectual tendencies in contemporary philosophical thought. The relation between the general ideas put forward by philosophy and the events taking place in the social and political world is one exceedingly difficult to determine. In this book we have the general thesis

¹ *Great Society*, p. 43.

that there is a close connection between Syndicalism and certain tendencies common to the evolutionism of Bergson and the realism of Bertrand Russell. While there is much in these writers which is antagonistic, still, it is maintained, they possess a common ingredient; they exhibit an element of realism, and it is this realistic element that links them to Syndicalism.

We briefly summarize the main points of the book:

Syndicalism is characterized by a violent distrust of both law and government. This distrust is the direct result of the failure of state socialism. Not only has the state socialist failed to accomplish reform through political means, but the end, *viz.*, the reformation of society as a whole, is altogether too vague and remote. The economic advantage of a class is an immediate end. The revolutionary socialist, distrustful of the power of a state to legislate a millennium into existence, smashes through the thin and to him futile and entirely unessential order of the law, and goes in directly for immediate economic gain. This is Syndicalism. Its dominating impulse is to *seize the immediate*. Now there is another sense in which the socialist was guilty of a social betrayal. Marx had taught that the capitalistic class would disappear through the natural law of class warfare. But the bourgeoisie became benevolent. Hence a cessation of the spirit of class warfare. But this militant idea was too powerful a one to be given up. Class struggle must be made a reality. Syndicalism, with its doctrine of violence, comes forward to keep the militant spirit alive.

We shall now see how certain realistic tendencies in the thought of Bergson and Russell are linked to this social movement. The author is careful to define just what he means by realism. This account of realism is one of the most interesting features of the book. Realism, of course, is in some sense opposed to idealism, but not to any idealism; not, for example, to Berkeleyan idealism which after all did nothing but change the names of things. Realism is opposed to the *constructive* idealism of the Kantian type. The idealist distrusts the given, he is bent on working it over into something more akin to his own nature. The given as given is not real; in order to become reality it must become transformed. It is not a question of what the world is made of, but of what it is made into. To transform, not to conform is the idealistic aim. Now the realist represents that "bent of mind which is averse to construction." "This taking of the real to be what it is given as, is the doctrine which we propose to call realism."² Realism means grasping the given. Furthermore it cherishes the belief that what comes first in order of time is better in

² *Syndicalism and Philosophical Realism*, p. 67.

point of fact. To recover the immediate is to reveal the source of value. We have here something of the faith of Rousseau. Reality as given is good. From this follows the demand to keep the immediate inviolate. To be realistic means to respect and cherish the given nature or man.

In so far as Bergson's psychology reinstates the self, and in so far as his metaphysics involves an interpretation of the world without us by the spirit within us, he is an idealist. But he leaves us with a realistic will. "The realism in Bergson consists in the affinity between what he says is the true nature of the will and what the will is first given as; in the child or in the animal. The point of affinity is its being not rationally constructed; in other words, the unpredictableness of its movements, its incalculableness."³ It is just this incalculableness of the will, issuing in a "loose" anti-intellectualism, and justifying a relapse into the primitive forces of original nature, that affords encouragement and inspiration to the Syndicalists. Syndicalism typifies tremendous power coupled with irresponsibility. "The scheme is simply this: First, you strike. If you are a men's leader you have little idea further, except to keep up the 'inspiring struggle.' If you are a striker you have no idea further. If you are M. Sorel himself, you see that what you are making for is the 'general strike,' but you also see that you don't really *see* it; it not being a thought of yours, but only a 'myth.' And when you are a Bergson you understand all this, you understand what this peculiarly 'integral' mode of apprehension can be, which is not thought, but above thought."⁴

Incalculableness is what relates Bergson to Syndicalism. A certain narrowness of will is what links Russell to it. The earlier aim of socialism was to reform society by political means. But this proved altogether futile. The complete reformation of society as an end is too indefinite, too vague, too tame. Even as a "myth" it does not arouse any very primitive or militant impulses. Something narrower and nearer, something more directly attached to the primitive, is needed. Syndicalism, with a zeal to grasp the immediate, aims at the ascendancy of a class rather than the good of the community as a whole. It aims at less in order to accomplish more.

What is there in the realism of Russell which relates it to this tendency to accept and justify narrowness? Realism, as we have seen, is averse to construction. Conventions, institutions and the forms of social and political organization are works of rational construction. Realism, with its predilection for the immediate and its

³ *Ibid.*, p. 131.

⁴ *Ibid.*, p. 47.

deification of the primitive, is iconoclastic in regard to the constructed order and organization of society. Now Mr. Russell has a profound respect for personality. And personality is a thing once for all given. Its essence is narrowed to a certain principle of vitality realistically and primitively conceived. Our original impulsive nature is more fundamental and therefore more real, and therefore more valuable, than our desiderative and rational nature. It should for this reason be accepted, protected and cherished. We have here a narrowing of personality to the given and original impulsive nature of man. The social aim is to provide the means of liberating these primitive and vital forces. To liberate life requires a pretty radical overhauling of the existing institutions.

Such is the outline of a book which is in the main descriptive. We gather, however, that the author is entirely out of sympathy with both realism and Syndicalism. A subtle irony marks an implied criticism. More specifically we are told that, as regards Bergson, his doctrine of intuition involves no more than a strenuous effort to be idle. A dangerous doctrine as a philosophy of labor! And Mr. Russell forgets that there is a problem of making a soul before there is a problem of liberating it. This, of course, in terms of the initial definitions involves on the part of the author an abandonment of the realistic position and an acceptance of the idealistic ideal of construction.

It seems to me that Mr. Scott has performed a significant and an important task. Whether or not there is a direct causal relation connecting the realism of Bergson and Russell with Syndicalism, there is a logical connection. Syndicalism is just the kind of thing that would happen if the anti-intellectualism of Bergson and the realism of Russell were applied to social problems. Whether or not we are realists or idealists—the names mean little—it seems to me that man's hope for the future lies in the creative and constructive work of intelligence. It may be that in point of time intelligence comes later than impulse and instinct. But that is no excuse for mistaking origins for values. All rational as well as social construction has, or should have, a natural basis. But the natural basis is not itself the reality. To deify the primitive and original nature of man is to prepare the way for social disintegration. To be sure the old intellectualism largely ignored this primitive element. It constructed an "ideal" order with no natural basis. The New Realism, with its bias for the given, runs the danger of limiting itself to an unenlightened naturalism. Is there not more hope in a new intellectualism, the finding of the real and the valuable in what Santayana would call the union of impulse and ideation?

M. T. McCLURE.

Problems of the Secondary Teacher. WILLIAM JERUSALEM. (Translation by CHARLES F. SANDERS.) Boston: Richard G. Badger. 1918. Pp. 253.

The virtue of William Jerusalem's *Problems of the Secondary Teacher* is that it is forward looking; its vice is an obscurity of the vision. It has an abundance of suggestion of a fertile mind at work in the quiet of the study; it has the confusion and indefiniteness to be found in a jumble of psychology, philosophy, sociology, and religion. The American secondary teacher who reads it will be stimulated to consider seriously the problem of secondary teaching, but he will lay it aside with no well marked path to lead him on. The American teacher is seeking a point of view from which he may see a clear road leading to the Delectable City where dwell all of the children of all of the people educated. The guideposts and milestones on this road, philosophy and psychology, must be clearly marked. Mr. Jerusalem's markings are not clear.

WILFORD M. AIKIN.

SCARBOROUGH, N. Y.

JOURNALS AND NEW BOOKS

PSYCHOLOGICAL BULLETIN. December, 1919. *A Note on Social Inheritance* (pp. 393-394): H. B. ENGLISH.—Social psychologists are coming more and more to realize the importance of social as well as biological inheritance. *Instinct, Imitation and Play* (pp. 395-403): E. N. HENDERSON.—Twenty-three researches are reviewed. The study of instinct in recent years may be said to have followed four general lines: Attempts to analyze instinctive activities and to develop a mechanical or psychological theory to explain them, proposed classifications of instincts, studies of particular instincts in man and the brutes, comparison of the relative strength of the various instincts. *Reviews: Croce's Logic*: W. C. RUEDIGER. *Pikler's Gegenfarben*: L. T. TROLAND. *Kemp's Autonomic Functions*: L. DOOLEY. *Mardell's Erotic Motive in Literature*, *Martin's Psychic Tendencies*, *Higier's Vegetative Neurology*: S. I. FRANZ. *Haggerty's Reading and Intelligence Examinations*: F. N. FREEMAN. *Editorial Notes. Indexes.*

Brousseau, Albert. *Essai sur la Peur aux Armées, 1914-1918.* Paris: Félix Alcan. 1920. Pp. 158. 6 frs. 60.

Carr, H. Wildon. *The General Principle of Relativity, and its Philosophical and Historical Aspect.* London: Macmillan & Co. 1920. Pp. vii + 165. 7s. 6d.

- Knowlson, T. Sharper. *A Thought Book on the Socratic Method.* Philadelphia: J. B. Lippincott Co. 1920. Pp. viii + 199.
- Lacy, Benjamin F. *Pessimism.* Philadelphia: J. B. Lippincott Co. 1920. Pp. 94.
- Meurer, Waldemar. *Ist Wissenschaft überhaupt möglich?* Leipzig: Felix Meiner. 1920. Pp. 279. Brosch. 25 m., geb. 40 m.
- Schlick, Moritz. *Space and Time in Contemporary Physics: The Theory of Relativity and Gravitation.* (Translated by Henry L. Brose.) Oxford University Press. 1920. Pp. x + 89.
- van Wesep, H. B. *The Control of Ideals.* New York: Alfred A. Knopf. 1920. Pp. xi + 154. \$2.

NOTES AND NEWS

WE give below the programme of the meeting of the Eastern Branch of the American Philosophical Association, which will be held at Columbia University on December 28, 29, and 30, 1920. All sessions, except as otherwise indicated, will be held in Room 301, Philosophy Hall. The president's address and all morning and afternoon sessions (except the business meeting) are open to the public.

TUESDAY, DECEMBER 28.

4.30 P. M.

Executive Committee Meeting at the Murray Hill Hotel.

8 P. M.

Informal Meeting and Smoker (Philosophy Hall, Room 301).

WEDNESDAY, DECEMBER 29.

9.30 A. M.

Formalism in Logic *Arthur Mitchell*
 The Structure of Logic and its Relation to Other Systems.

..... *C. I. Lewis*
 Some Philosophic Aspects of Physical Relativity.....*M. R. Cohen*
 Epistemological Dualism vs. Metaphysical Dualism. *R. W. Sellars*

2 P. M.

Discussion: The Rôle of the Philosopher in Modern Life, with Reference both to Teaching and to Research.

James Bissett Pratt, John M. Mecklin, Richard C. Cabot

4.30 P. M.

Reception by President and Mrs. Butler (60 Morningside Drive).

8 P. M.

Dinner at the Westminster Hotel (420 West 116th Street)

followed, in the same room by the

President's Address: The Appeal to Reason....*Ralph Barton Perry*

THURSDAY, DECEMBER 30.

10 A. M.

Continuation of the Discussion of the Rôle of the Philosopher in
Modern Life .. *Thomas Reed Powell, Frederick J. E. Woodbridge*

2 P. M.

Business Meeting of the Association.

Reports:

Treasurer's.

Joint Session with the Western Branch.

Affiliation with the American Council of Learned Societies.

Election of New Members and Officers.

Programme for 1921.

3 P. M.

Education and Criticism *H. G. Townsend*

On a Supposed Dualism in Plato *A. S. Ferguson*

The Reference to Reality in Modern Logic.....*R. C. Lodge*

The Philosophical Basis of Mr. Fite's Individualism...*N. T. Symons*

At its forthcoming meeting the American Philosophical Association will be asked to vote upon the question of its membership in the recently formed American Council of Learned Societies. The Council is the outgrowth of a movement initiated by the French Academy of Inscriptions and Belles Lettres in March 1919, which resulted in the formation of an International Union of Academies for the purpose of promoting research in the humanities.

In response to this movement the American Academy of Arts and Sciences and the American Historical Association, through their Presidents and Secretaries, invited representatives of eleven other societies to a conference held in Boston on September 19, 1920. The conference voted unanimously that in its opinion American learned societies should participate as a group in the International Union of Academies. In order to constitute such a group the conference recommended the creation of an inter-society body to be known as

the "American Council of Learned Societies," and proceeded to draw up a form of agreement establishing such a body, together with a constitution for its government when it should be organized.

This constitution, which has been ratified and is now in force, provides that the Council shall be composed of delegates of "the national learned societies of the United States which are devoted by scientific methods to the advancement of the humanistic studies." Each such society is represented by two delegates chosen for a term of four years and in such a manner as the society may determine. The duties of the Council are to choose the representatives of the United States in the International Union of Academies, to prepare their instructions, and in general to serve as the principal medium of communication between the Union and the constituent societies. The Council is also authorized to take such measures on its own initiative as "may advance the general interests of the humanistic studies" and is particularly charged with maintaining and strengthening relations among the societies which are represented in it. The Council is required to make an annual report to the constituent societies setting forth in detail all its acts and all receipts and expenditures of money; instructions voted by a majority of the societies are binding upon it and it may be dissolved by vote of two-thirds of the societies. The organization of the Council is simple in the extreme; its officers are a chairman, vice-chairman, and a secretary-treasurer, no two of whom may be from the same society, and these with two other delegates compose the Executive Committee. In order to defray the administrative expenses of the Council each constituent society is assessed an annual contribution of five cents per member, with a minimum contribution of twenty-five dollars for societies of less than five hundred members. The Council is required to meet at least once a year.

The American Association for International Conciliation has issued a pamphlet concerning the whole matter, which can be had by addressing the editorial office, 407 West 117th Street, New York City.

PROFESSOR JOHN E. BOODIN of the Department of Philosophy of Carleton College is abroad this year on sabbatic leave. Assistant Professor Edward Z. Rowell is filling his chair at Carleton.

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