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JOHN YOUNG EVANS.

ERINYES.—See EUMENIDES.

ERROR AND TRUTH.—Both in its philosophical and in its popular acceptation the word 'error' is applied to false opinions. But popular usage also gives to the term a still wider meaning, whereby it includes not only false opinions, but numerous forms of practical failure, and of defective conduct, whose relations to conscious beliefs are by no means constant or easily discoverable. The derivation of the word illustrates the naturalness of associating the conception of a false opinion with the idea of some such act as wandering, or straying, or missing the way. It seems, therefore, as if a first approach to a sharper definition of 'error' would be aided by clearly distinguishing between the practical and the theoretical applications, and then confining the philosophical use of the term, so far as possible, to theoretical errors. But we shall find it impossible to define even theoretical error without reference to some genuinely practical considerations. However much we try to avoid popular confusions, we shall be led in the end to a concept of error which can be stated only in teleological terms, and which involves the idea of action for an end, and of a certain defect in the carrying out of such action.

The present article, after distinguishing, as far as possible, the concept of theoretical errors, or of false opinions, from the popular concept of practical errors, and after stating some of the best known views regarding what a false opinion is, will seek to indicate the nature of a solution of the problem in terms of a doctrine about the relation of the cognitive to the volitional processes.

I. **Practical errors and false opinions.**—When one emphasizes the practical aspect of an error, one sometimes makes use of the more drastic word 'blunder.' A blunder is something which involves serious maladjustment, defect in conduct. Errors in the sense of blunders may be due to false opinions, or may even very largely consist of such. On the other hand, they need not involve false opinions, and *must* involve actions which do not attain their goal. These actions may be only partly voluntary; but the relation of their defective aspects to the accompanying voluntary processes is what makes us call them errors. Thus,

we speak of the error or blunder of the marksman who misses his mark; of the player who fails to score, or who permits his opponent to score when the game calls for some device for hindering the opponent from scoring. We speak of the musician's error when he sings or plays a false note. Such errors may, but often do not, result from, or accompany, false opinions or misjudgments. Thus one may fail as marksman, as player, or as musician, either through misjudgments or through defects of physical training, of temporary condition, of mood, or of attention—defects which may involve no false opinions whatsoever.

In the moral realm, the relations between such practical errors on the one hand and false opinions on the other are especially momentous and intricate. Here, in fact, the theory of moral error involves all the main problems about the relations between knowledge and action. A sin is very generally called an error. 'We have erred and strayed from thy ways like lost sheep.' The error is, first of all, practical. It has also some relation to knowledge. Yet, since sin appears to depend upon some degree of knowledge of the right, the 'error' in question does not merely result from a false opinion about what one's duty is. On the other hand, that sin involves 'unwisdom,' and so does in some respect depend upon false opinions, is very generally asserted. Any careful discussion of those practical errors which have a moral significance will, therefore, show that it is no merely accidental confusion which has led to our use of a word derived from our experience of wanderings from the right path as a term which is also to be applied to false opinions. Opinions certainly express themselves in actions; and voluntary actions are guided by opinions. The resulting relations of cognition and volition, especially in the moral world, are amongst the most complex and intimate which are known to us anywhere. They are relations which we can neither ignore nor wholly disentangle. Hence the clear separation of theoretical error and practical error, at least in the moral world, is impossible. For sin involves both theoretical and practical defects.

We can, however, make some approach to such a separation of the theoretical and practical aspects of error if we turn for aid to a very different realm, namely, formal logic. The distinction between true and false propositions involves certain well-known general relations, such as formal logic considers and analyzes. We may use these relations for what they are worth in attempting to define what a false opinion is. Having thus laid a basis for further analysis, we may attempt to clear the way through some of the more complex regions of the problem of error.

The distinction between true opinion and false opinion obviously depends upon, but also is obviously not identical with, the formal logical distinction between true and false propositions. This close relation and important difference between these two distinctions appear upon a brief study of the considerations which formal logic employs in dealing with the concepts of truth and falsity. True and false are, for the formal logician, predicates belonging to propositions, quite apart from any question as to whether anybody believes or asserts those propositions. With regard to the predicates 'true' and 'false,' formal logic uses, upon occasion, the following well-known principles, which we may here provisionally accept as a basis for further inquiry: (1) every proposition (supposing its meaning to be precise) is either true or false, and cannot be both true and false; (2) to every proposition there corresponds a determinate proposition which is the contradictory of the first proposition; (3) the relation of contradictories is

reciprocal or 'symmetrical'; (4) of two contradictory propositions, one is true and the other is false. These may be here regarded, if one chooses, merely as defining principles, explaining what one means by propositions, and how one proposes to use the logical predicates 'true' and 'false.'

Granting these purely formal principles, of which all exact reasoning processes make constant use, it is obvious that propositions taken collectively as a system constitute an ideal realm wherein to every truth there uniquely corresponds its contradictory falsity, and to every false proposition its contradictory true proposition. The realms of truth and falsity are thus formally inseparable. To know that a given proposition is false is to know that the corresponding contradictory is true, and *vice versa*. Omniscience regarding the realm of truth would, therefore, equally involve knowing true propositions as true and false propositions as false; nor could the one sort of knowledge be defined or real without the other.

But no such formal logical necessity appears to connect true opinion and error. No one can know that $2+2=4$ is true without thereby knowing that $2+2\neq 4$ (that is, the contradictory of the former assertion) is false. But we can conceive of a computer who should never make any errors in computation; and such a computer might even be supposed so perfect, in the possession of some superhuman infallibility of computation, as not even to know what it would be to err in his additions. We ourselves, when we use the assertion $2+2=4$ as an example of a peculiarly obvious proposition of computation, find this bit of summation one about which it is rare or difficult for a man 'in his sober senses' to err. Yet for us the knowledge of the truth of the proposition $2+2=4$ is logically inseparable from the knowledge of the falsity of the contradictory of this proposition.

In sum, then, true and false propositions are logically inseparable. To possess a knowledge of truth is, therefore, inseparable from the possession of a knowledge of what falsity is, and of what false propositions mean. But a being can be supposed to know truth and falsity, and their distinctions and relations, without having any tendency to fall a prey to error. At all events, no purely formal logical reasons, such as for the moment concern us, can be given for supposing that a being who is capable of knowing truth should be capable of falling into error. The more concrete distinction between true opinion and error must, therefore, be different from the formal logical difference between truth and falsity. The latter may be viewed as a logically necessary distinction between inseparable objects. The former must be due to motives or causes, and must imply mental tendencies and situations of which formal logic, taken in its deliberate abstraction from the fullness of life, gives no account.

The concept of a false opinion is thus obviously distinct from that of a false proposition, and not every true opinion requires that the corresponding false opinion should be held by somebody. It is the purpose of advancing science, of education, of the propagation of truth, to diminish and, so far as may be, 'to banish error' from the minds of men. If this purpose were somehow miraculously attained, there would be as many false propositions in the formal logician's ideal realm of truth and falsity as there ever were; but human errors would have ceased.

2. The leading definitions of error.—To define false opinion, hereupon, as the acceptance or the mistaking of false propositions for true ones, or of true for false ones, is a familiar device of philosophers, but it throws no light upon the real nature of error. For, to mistake a falsity for a truth, to

accept a false opinion as true—what is this but simply to make a mistake, or to hold a false opinion? This supposed definition is but a tautology. Not thus is the nature of error to be clarified. Further light upon the subject can be obtained only through (1) defining more exactly the distinction between true and false propositions; and (2) showing upon what further distinctions the conception of error depends. Some of the best known efforts to accomplish this result must next be summarily stated and criticized.

(i.) The 'correspondence theory of truth and falsity' and the definitions of error based upon it deserve to be stated, because they are familiar, and because they have formed the starting-point for supplementary doctrines and definitions and for corrections. According to the view now in question, a proposition is true if it reports, or describes, or portrays 'facts as they are.' The emphasis is laid upon the 'as.' A true idea 'corresponds' in its structure to the thing, or reality, or fact of which it is a true idea; a true proposition is one which asserts that an idea does thus correspond to the facts, when it actually so corresponds. Or, again, if the account given by a proposition conforms to the structure of the facts of which it attempts to furnish an ideal portrayal, the proposition is true. Thus, a proposition may relate to the number in a real flock of sheep. In this case an idea, gained by counting the sheep, is first formed, and then the assertion is made that this numerical idea represents the real number of sheep present in the flock. The correspondence of the idea with the facts constitutes that to which the assertion is committed. If the correspondence exists, the assertion is true.

Such being (according to the 'correspondence' theory) the nature of truth, error takes place when, because of inadequate observation of the sheep, or because of some other psychological defect on the part of the one who counts, a numerical idea which does not correspond to the real number of the sheep arises in the mind that is subject to the error; while, because of these or of still other psychological motives, the false proposition, 'Such is the number of the sheep,' comes to be asserted. That the correspondence does not exist makes the proposition false. That this non-existent correspondence is asserted and believed to exist constitutes the essence of the error.

In order to understand what error is, and how it arises, one therefore needs, according to this view, to analyze the nature of belief, and the motives which lead the erring mind to make assertions. From this point onwards, the definition and the theory of error have always required the consideration of various associative, affective, or volitional factors of the process of making and believing assertions—factors of which pure logic, considered in its usual abstraction, can give no account. In brief, the nature of truth and falsity once having been thus defined, the nature of error depends upon some disposition to accept or to assert an untrue proposition—a disposition which cannot be due to the merely logical nature of the untruth itself, but must be referred to the prejudices, the feelings, the ignorance, the wilfulness, or the other psychological fortunes of the erring subject.

What further accounts, upon this basis, have been attempted as explanations of the essence of error, there is here no space to set forth at length. A few points must be noted. One may assert: (1) that error in such a case as the foregoing, or in the more complex cases of superstitions, supposed theological heresies, false philosophies, errors in scientific opinion, false political doctrines, etc., may be mainly due to a negative cause—the mere

ignorance of the erring subject, his lack of 'adequate ideas,' the absence of correct and sufficient portrayals of fact. What a man lacks he cannot use. If he has no ideas that correspond with the facts in question, how can he make true assertions? Error is then, at least in the main (according to the view now in question), due to privation. For instance, I may not even attempt to count the sheep in the flock. I may merely guess at random. In such a case, error seems to be due merely, or mainly, to my lack of ideas. Such a negative theory of error was worked out by Spinoza, and applied by him, as far as possible, to decidedly complex cases. Naturally, according to Spinoza, 'the order and connexion of ideas' corresponds to 'the order and connexion of things.' This, for Spinoza, is the case with even the most worthless of our human imaginations. But, for psycho-physical reasons, which Spinoza discusses at length, most ideas of the ordinary man, relating to his world, are extremely 'inadequate'; that is, such ideas correspond only to very fragmentary aspects of the real world. The majority of men live 'ignorant of God and of themselves, and of things.' This ignorance prevents them from possessing the stock of ideas which could furnish the basis for true opinions. Men fill the void with errors. Yet none even of their errors is without basis in fact. They simply judge, without restraint, concerning that of which they know not, just because they know so little. This doctrine of error as ignorance, if accepted, would give us the most purely and completely theoretical definition of error which has ever been offered.

Plainly, however, ignorance is not of itself error. I cannot err concerning facts of which I know so little as to have no idea whatever about them; just as I cannot, in a speech, make grammatical blunders of whose existence I have never heard. Some other factor than ignorance determines the actual acceptance and utterance of false propositions. This even Spinoza himself has in the end to recognize. In his study of the errors of human passion, he makes the mechanical associative process, and the resulting passions themselves, factors in the genesis of error. Thus we are inevitably led to further theories.

One may assert: (2) that error is due to whatever moves the will of the erring subject to make assertions even in the absence of ideas that correspond to real objects. This volitional theory of error played a considerable part in Scholastic doctrine; was obviously useful in giving reasons for the moral condemnation of the errors of heretics, infidels, and schismatics; and has, in fact, an obvious and important basis in the psychology of opinion. Descartes recognized it in connexion with his own form of the doctrine of the freedom of the will. Spinoza, who rejected the theory of free will, and defined both intellect and will in terms of his psycho-physical theory of the associative process, still on occasion was obliged, as just pointed out, to use his own version of the doctrine of 'human bondage' as an explanation of the fatal errors into which the play of our inadequate ideas and of our passions leads us. In other forms this theory of error is widely accepted. From this point of view an error is a wilful assertion of a false proposition—an assertion made possible, indeed, by the erring subject's ignorance of the ideas that do correspond with reality, but positively determined by his willingness to assert. False beliefs are thus due to a combination of ignorance with the will to believe.

One may insist: (3) that the affective processes which condition the mood called 'belief' are the principal factors in making a false proposition, when it chances to be suggested, seem plausible.

Where error is propagated by social contagion, or is accepted through reverence for authority, not so much the will as the emotional life of the erring subject seems to be the factor which makes error possible. Here, according to the previous view, ignorance of ideas that do correspond with reality is a condition of error, but constitutes neither its essence nor its sufficient cause. An error, according to the present view, is a false opinion which, because of its appeal to the sentiments, the feelings, the prejudices, of the erring subject, because it is harmonious with his social interests or with his private concerns, wins the subject over to the state of mind called belief.

One may further maintain: (4) that the principal cause of error is whatever associative, perceptual, or imaginative process gives such liveliness, strength, and persistence to ideas which as a fact do not correspond with reality, that the erring subject is forced, in the absence of sufficient corrective ideas, or (to use Taine's expression) for lack of 'reducers,' to regard these ideas as representatives of reality. Theories of error founded upon this view have played no small part in the psychiatric literature which deals with the genesis of pathological forms of error, and have been prominent in the teachings of the Associationist school generally. From this point of view, an error is a false proposition whose assertion is forced upon the erring subject through the mechanism of association, and mainly because no other ideas than those which this assertion declares to correspond with the facts can win a place in the subject's mind when he thinks of the topic in question.

The foregoing accounts of the nature and source of error have all been stated with explicit reference to the 'correspondence' theory of truth. This theory supposes that the test of truth is the actual conformity of a representative idea with the object which it is required to portray. Idea and object are viewed as distinct and separable facts, just as a man and his portrait or photograph are possessed of a separate existence. The representative idea is external to the object. Truth depends upon a certain agreement between such mutually external facts. And, just as the idea to whose truthfulness as a representation a proposition is committed is external to its object, so, as we have now seen, the motives which lead to error appear, in the accounts thus far given, to be external to the meaning, and to the truth or falsity, of ideas and propositions. The falsity of a proposition, so far as we have yet seen, gives no reason why the error involved in believing that proposition should be committed. The truth of a proposition, also, in no wise explains why the true proposition comes to be believed—unless, indeed, with Spinoza, one comes to accept, for meta-physical reasons, a theory that ideas are by nature in agreement with objects. In case, however, one does accept the latter theory without any limitation, then error can be defined only in negative terms as due to mere absence of ideas. Such an account of error, as we have also seen, is incapable of telling us what it is, and is inadequate to explain the most familiar facts about its occurrence.

If, then, the truth or the falsity of a proposition does not of itself explain why we come to get a true or a false belief, the existence of error, for one who accepts the correspondence theory of truth, has to be explained by psychological motives which are as external to the logical meaning of true and false propositions as the ideas of the correspondence theory of truth are external to their objects. Some propositions are true. Their contradictories are false. So far, we have a system of facts and relations that seems, according to this

account, to be wholly independent of the psychological processes of anybody. But of these true and false propositions, some are believed by men. If the propositions believed are true, we have not explicitly considered in the foregoing the psychology of the process by which they come to be believed. But, if the beliefs are beliefs in false propositions, some accounts of how the errors arise have been suggested. These accounts all appeal to motives which do not result from the falsity of the propositions, but from the feelings, the will, or the associative processes of the erring subject—all of them influences which are due not to the logical distinctions between true and false, but to the mental fortunes of the believer.

Unfortunately, however, since the true beliefs of the subject must also have their psychology, quite as much as the false beliefs, and since the will, the feelings, the associative processes, the conditions which determine 'lively ideas,' and the like, must be equally effective when true propositions are believed as when false beliefs triumph—all the foregoing accounts leave us dissatisfied should we be led to ask: What are the processes which prevent error and give us true beliefs? For, apart from Spinoza's assumption of the universal agreement between 'the order and connexion of ideas and the order and connexion of things'—an assumption which makes error in any but a purely negative sense impossible—the truth of a proposition is a fact which in no wise explains why we mortals should come to believe that proposition to be true. And, if we explain the true belief as due to the will, the feelings, the associative or other psychological processes of the subject, these factors, as the theories of error so far stated have insisted, work as well to produce error as to beget true opinion. The one thing of which we have so far given no account is the way in which the difference between true opinion and error arises—the factor which is decisive in determining whether a given state of opinion, in a given subject, shall be one which accepts true propositions or, on the contrary, embraces errors.

Of course, the need of such an account has frequently been felt by the partisans of the 'correspondence' theory of truth. Innumerable portrayals exist of the ways in which conformity of idea and object can be furthered or attained by psychological processes. Ideas can be made 'clear and distinct,' observations of the object can be rendered careful, prejudice can be kept in abeyance, feeling can be controlled, judgment can be suspended until the evidence is incontestable, and so on. By such means error can be more or less completely avoided, and agreement with the object can be progressively obtained. There is no doubt of the practical importance of such advice. There is also no doubt that the processes of control and of clarification which are in question are psychological processes, which the inquiring subject can find or produce within himself. It becomes plain, however, as one reflects, that to insist upon such matters is more or less to modify, and in the end to abandon, the representative theory of truth as consisting merely in the conformity of ideas to objects that are external to these ideas.

For how does one know, or why does one judge, that clear ideas, careful observations, the avoidance of prejudice, the suspension of judgment, and the other psychological devices of the truth-seeker, actually tend to make the subject escape from error, and win true opinion? Is it because, from some point of view external both to the object and to the ideas of the subject, one observes how the subject gradually wins a closer conformity with his object through using the better devices, and through avoiding the mental sources of error? If

so, then whoever has this point of view, external both to the object and to the cognitive process, is already somehow acquainted with the constitution of the object, and is aware what propositions are true about the object quite apart from the psychological fortunes of the poor subject, whose escape from error is to be aided by such wise counsels. As a fact, philosophers who give such counsels very often behave for the moment as if they, at least, had not to wait for a slowly acquired conformity with the nature of reality, but were already assured of their own grasp of the object, and were therefore able to give such good advice to the erring psychological subject. No purely psychological theory of the way in which a conformity to an external object can be gradually acquired through clear ideas, freedom from prejudices, and so on, can serve to explain how the critic of human truth and error has himself acquired his assumed power to see things as they are, and thus to guide the psychological subject in the right path. That sort of attainment of truth which this theory attributes to the philosopher who teaches it is just what it does not explain.

In fact, a little reflexion shows that, when we hold, as we very rightly do, that a certain wise conduct of our ideas, feelings, will, observations, processes of recording observations, and other such mental enterprises helps us towards truth, and aids us to avoid error, we are comparing, not ideas with merely external objects, so much as less coherent with more coherent, unified, clear, and far-reaching forms of experience, of cognition—in general, of insight. If we once see this fact, we have to alter our definition of truth, and herewith our definitions both of true opinion and of error.

Truth cannot mean mere conformity of idea to external object: first, because nobody can judge an idea merely by asking whether it agrees with this or with that indifferent fact, but only by asking whether it agrees with that with which the knowing subject meant or intended it to agree; secondly, because nobody can look down, as from without, upon a world of wholly external objects on the one hand, and of his ideas upon the other, and estimate, as an indifferent spectator, their agreement; and thirdly, because the cognitive process, as itself a part of life, is essentially an effort to give to life unity, self-possession, insight into its own affairs, control of its own enterprises—in a word, wholeness. Cognition does not intend merely to represent its object, but to attain, to possess, and to come into a living unity with it.

Accordingly, the theories of error which have been founded upon the 'correspondence' theory of truth must be, not simply abandoned, but modified, in the light of a richer theory of truth. A true proposition does, indeed, express a correspondence between idea and object, but it expresses much more than this.

(ii.) Another definition of truth, which has its foundation far back in the history of thought, but which has been of late revised and popularized under the names of Pragmatism, Humanism, and Instrumentalism, may next be mentioned.

According to this view, an idea is essentially something that tends to guide or to plan a mode of action. A proposition expresses the acceptance of such a mode of action, as suited to some more or less sharply defined end. Now, a mode of action inevitably leads to consequences, which arise in the experience of the active subject. These consequences may be called the 'workings' of that idea which tended to guide or to plan this mode of action. These workings may agree or disagree with the intent of the idea. If the idea agrees with its expected workings, that idea is true, and with it the proposition which accepts that idea as

sued to its own ends is true; otherwise the idea and the proposition are erroneous. Such is the definition of truth which is characteristic of Pragmatism.

The case of the right or wrong counting of the flock of sheep will serve to illustrate the present theory of true opinion and of error quite as readily as to exemplify the representative theory of the same matters. A flock of sheep is not merely an external object to be portrayed. It is, to the one who counts it, an interesting object of human experience. He counts it in order to be ready to estimate his possessions, to sell or to buy the flock, to know whether he needs to hunt for lost sheep, or because of some other concrete purpose. His counting gives him an idea, perhaps of what he ought to ask of a purchaser, or of a plan for the shearing or for the market, perhaps of whether he ought to search for missing sheep. When he accepts and asserts that some determinate number represents the actual number of the flock, he, no doubt, takes interest in the correspondence between the idea and the object; yet his real object is not the indifferent external fact, but the flock of sheep as related to his own plans of action and to the practical results of these plans. The only test of the truth of his count, and, in fact, the only test that, when he counts, he proposes to accept, is that furnished by the workings of his count. Does his idea of the number of sheep, when accepted, lead to the expected results? One of these results, in many cases, is the agreement of his own count with that made by somebody else, with whom he wishes to agree concerning a sale or some other enterprise. Or, again, he expects the enumeration which he makes at one time to agree with the result obtained at some other time when he counts the flock anew. Furthermore, a habit of inaccurate counting betrays itself, in the long run of business, in the form of failure to get expected profits, or in the form of a loss of sheep whose straying is at one time not noticed because of the inaccurate counting; while later experience shows, in the form of the experience which traces the loss, the non-correspondence of expectations and results. Such expectations, tests, and agreements define the sort of truth that is sought.

What so simple and commonplace an instance illustrates, the whole work of the natural sciences, according to the pragmatist, everywhere exemplifies. The Newtonian theory of gravitation is accepted as true because its ideas lead, through computations, to workings which agree with observation. The older corpuscular theory of light was rejected because certain of its consequences did not agree with experience. The same process of testing hypotheses by a comparison of expectations with outcome can be traced throughout the entire range of empirical investigation.

As to the cause and essence of error, upon the basis of this theory of truth, there can be, according to the pragmatist, no very subtle difficulties to solve. The whole matter is, upon one side, empirical; upon the other side, practical. Experience runs its course, however it does. We, the truth-seekers, are endeavouring to adjust our actions to empirical happenings by adapting our expectations, through the definition of our ideas, and through the forming and testing of our hypotheses, to the observed facts as they come. As we are always in our practical life looking to the future, and are seeking the guidance which we need for our undertakings, our propositions are hypotheses to the effect that certain ideas will, if tested, agree with certain expected workings. If the test shows that we succeed, then, just when and in so far as we succeed, our propositions prove to be then and there true. If we fail, they prove to be errors.

Truth and falsity, and, consequently, true opinion and error, are not 'static' properties or fixed classifications of our ideas or of our hypotheses. Both the ideas and the propositions 'come true' or 'fail to come true' through the finit and dynamic process of the empirical test. Thus every truth is true, and every falsity false, relatively to the time when, and the purpose for which, the individual idea or hypothesis is tested.

Absolute truth or permanent truth, and equally absolute falsity or permanent falsity, are, from this point of view, purely abstract and ideal predicates, useful sometimes for formal purposes, when we choose to define our purposes in terms of logical or of mathematical definitions. 'Concrete' truth and error are of the nature of events, or series of events, or of 'the long run' of experience. That many of our ideas should not 'work,' or that many of our hypotheses should result in disappointed expectations, is, for the pragmatist, merely an empirical fact, requiring a special explanation no more than do the marksman's misses or the player's failure to score. We are not perfectly skilful beings; experience is often too fluent or too novel for our expectations. The wonder is rather that this is not more frequently the case. That man is as skilful a player as he is of the game of ideal expectations and anticipated consequences is a matter for congratulation. But failure is as natural an event as is success.

The traditional accounts of the psychology of error mentioned above are readily accepted by Pragmatism, precisely in so far as they are indeed accounts which experience justifies. No doubt, ignorance is a source of error. We are, in fact, ignorant of all except what experience, in one way or another, permits us upon occasion to prove by actual trial. This ignorance permits errors, in the form of false expectations, to arise. Prejudice, emotion, wilfulness, and the associative process unite to engender expectations which may prove to be false. Nor is there any known cause that uniformly ensures the attainment of truth. The difference between success and failure in our adjustment to our situation is simply an empirical difference. We have to accept it as such. No deeper account can be given than experience warrants.

The result of the pragmatist's definition of error obviously forbids any sharp distinction between theoretical and practical errors. The presence or absence of conscious ideas, of definite expectations, of articulate hypotheses, remains (in case of our always more or less practically significant maladjustments of our acts to our situation) as the sole criterion for distinguishing between erroneous opinions, on the one hand, and blunders that are made, on the other hand—merely as the fumbling player may fail to get the ball, or as the nervous musician may strike the false note—blindly, and without knowing why one fails, or what false idea, if any, guided one to the failure. This reduction of all errors to the type of practical maladjustments is a characteristic feature of Pragmatism.

If the 'correspondence' theory of truth makes the distinction between true and false opinions something that is quite external to the logical distinction between true and false propositions, the pragmatist's theory of truth and error in propositions seems, on the contrary, to go as far as is possible to annul altogether the difference between these two sorts of distinctions. For the pragmatist it is merely a formal device of the logician to regard truth and error as in any sense permanent properties, or predicates of the supposed entities called propositions. What actually occurs, what empirically happens, is a series of concrete agreements and disagreements between expectations

and results. These happenings, or 'the long run' of such happenings, constitute all that is concretely meant by truth and error. Whether one says, 'This proposition is true or false,' or, 'This opinion is true or false,' the concrete fact to which one refers is the sequence of testings to which ideas are submitted when their expected workings are compared with the expectations. Since logicians like to abstract certain 'forms' from the matter of life, they may, if they choose, define the entities called true and false propositions, and then leave to the students of the concrete the study of the fortunes of mere opinions. As a fact, however, according to Pragmatism, propositions live only as opinions in process of being tested. The distinctions with which we began this discussion have their own provisional usefulness, but only as abstractions that help to prepare the way for understanding life. A proposition becomes true in the concrete when the opinion that it is true leads to expected workings, and becomes false when the belief in it leads to workings which do not agree with expectations.

Such, in sum, is the pragmatist's solution of our initial problem. It emphasizes very notable facts regarding the relations between logic and life, and between thought and volition. Yet it fails to satisfy. For it can only be stated by constantly presupposing certain assertions about experience, about the order, the inter-relations, the significance, and the unity of empirical facts to be true, although their truth is never tested, in the pragmatist's sense of an empirical test, at any moment of our experience.

It has been necessary to assume, even in stating the view of Pragmatism about truth, that ideas can be formed at one time, and submitted to the test of experience at another time, and perhaps by another person, just as Newton's hypotheses were formed by him, but were tested, not only by himself, through a long course of years, but by later generations of observers. It has been necessary to assume that one can form expectations to-day, and compare them with facts to-morrow, or next year, or after whatever length of time the conditions make possible. But this assumption requires the truth of the proposition that the meaning, the object, the purpose, the definition of the ideas and expectations of one moment, or period of time, or person, not only can be but are identical with the meaning, object, purpose, definition of the ideas and expectations of another moment, temporal region, or person. Now such an assertion, in any one case, may be regarded with scepticism, since it is, for human beings, unverifiable. Nobody experiences, in his own person, or at any one time, the identity of the ideas, meanings, expectations, of yesterday and to-day, of himself and of another person, of Newton and of the later students of Nature who have tested what they believe to be Newton's ideas. One may, in each special case, doubt, therefore, whether the idea formed yesterday is the same in meaning as the idea tested to-day, whether two men mean the same by the hypotheses which they are trying to verify together, and so on. But this much seems clear: however doubtful, in the single case, any such proposition may appear, unless some such propositions are true, there is no such process as the repeated testing of the same ideas through successive processes of experience, occurring at separate moments of time, or in the experiences of various human observers. But in that case it is not true that the proposition, 'Such a testing of ideas by the course of experience as Pragmatism presupposes actually takes place,' expresses the facts. If, however, this proposition is not true, the whole pragmatist account

of truth becomes simply meaningless. On the other hand, if the proposition is true, then there is a kind of truth whose nature is inexpressible in terms of the pragmatist's definition of truth. For there are propositions which no human being at any moment of his own experience can ever test, and which are nevertheless true.

Much the same may be said of the pragmatist's assertion regarding the 'workings' that an idea is said to 'possess,' or to which it is said to 'lead.' These 'workings,' by hypothesis, may extend over long periods of time, may find a place in diverse minds, and may involve extremely complex reasoning processes (*e.g.* computations, as in the case of the Newtonian theory of gravitation) which are very hard to follow, and which no human mind can survey, in their wholeness, at any moment, or submit to the test of any direct synthetic observation. The proposition, however, 'These are the actual, and, for the purposes of a given test, the logically relevant workings of the idea that is to be tested,' must itself be true, if the empirical comparison of any one of these workings with the facts of experience is to be of any worth as a test. The truth of the proposition just put in quotation marks is a truth of a type that no one man, at any instant, ever personally and empirically tests. In every special case it may be, and in general must be, regarded as doubtful. Yet, unless some such propositions are true, Pragmatism becomes a meaningless doctrine; while, if any such propositions are true, there is a sort of truth of which Pragmatism gives no account.

What holds of truth holds here, in general, of the conditions which make falsity possible. And the whole theory of true and false opinion, and consequently the definition of error, must be modified accordingly. In brief, Pragmatism presupposes a certain unity in the meaning and coherence of experience taken as a whole—a unity which can never at any one moment be tested by any human being. Unless the propositions which assert the existence and describe the nature of this presupposed unity are themselves true, Pragmatism has no meaning. But, if they are true, Pragmatism presupposes a sort of truth whereof it gives no adequate account. To say this is not to say that Pragmatism gives a wholly false view of the nature of truth, but is only to insist upon its inadequacy. It needs to be supplemented.

(iii.) Over against the theory of truth as the correspondence between a wholly external object and an ideal portrayal, and also in contrast with Pragmatism, there exists a theory of truth which defines that concept wholly in terms of a harmony between the partial expression of a meaning which a proposition signifies and the whole of life, of experience, or of meaning, which, according to this theory, ideas and propositions intend to embody so far as they can. A proposition is true in so far as it conforms to the meaning of the whole of experience. Such conformity can never be attained through the mere correspondence of a portrayal with an external object. It can exist only in the form of the harmonious adaptation of part to whole—an adaptation that can best be figured in the form of the adaptation of an organ to the whole of an organism.

If one reverts to the comparatively trivial instance of the sheep and the counting, the present view would insist, as Pragmatism does, upon the fact that, in counting sheep, one is attempting to adjust present ideas to the unity of an extended realm of experience, in which the observed sheep appear, now as grazing in the field, now as having their place in the herdsman's enterprises, now as passing from one ownership to another, and so on. The one who counts wants to get such a present

idea of the sheep as will stand in harmonious unity with all else that can be or that is known with regard to them. The truth involved in the process of counting is itself of a relatively abstract and lower sort; and hence is ill adapted to show what truth really is. For, in fact, to treat sheep merely as numerable objects is to treat them as what, on the whole, they are not; hence to say, 'They are so many,' is to utter what is in some respects false. For they are sheep, and to say this is to say that each is a living organism, a unique individual, a product of ages of evolution, and a being possessing values beyond those which commerce recognizes. Hence a numerical account of them has only 'partial truth,' and therefore is false as well as true. The only wholly true account of the sheep would express (not merely portray) their character as facts in the universe of experience and of reality. One can say, at best, of the proposition about their number that it is true in so far as it expresses a view about them which harmonizes, to the greatest extent possible for a numerical statement, with what experience, viewed as a whole, determines the place and the meaning of one's present experience of the flock of sheep to be.

Truth, from this point of view, is an attribute which belongs to propositions in a greater or less degree. For single propositions, taken by themselves, give us abstract accounts of facts, or rather of the whole in which every fact has its place, and from which it derives its characters. A proposition is an interpretation of the whole universe, in terms of such a partial experience of the nature of the whole as a limited group of ideas can suggest. This interpretation is always one-sided, precisely in so far as the group of ideas in question is limited. In so far as the partial view harmonizes with the whole, the proposition is true. Since the partial view, being one-sided, can never wholly harmonize with the whole, each separate proposition, if taken in its abstraction, is partially false, and needs to be amended by adding other propositions.

This general theory of truth and falsity, while its sources run back into ancient thought, is especially characteristic of modern Idealism. That the truth of propositions about experience is a character determined by their relation to the ideal and virtual whole of experience, to the 'unity of apperception,' is a thesis which forms part of Kant's 'Deduction of the Categories.' The later developments of the 'Dialectical Method,' by Fichte and Hegel, and the analogous features of Schelling's thought, led to more explicit theories of the relations between truth and falsity, and to the doctrine that every proposition, considered in its abstraction, is partially false, and needs amendment. Hegel, in the preface to his *Phänomenologie*, asserted that 'Das Wahre ist das Ganze,' and interpreted this as meaning that only what a survey of the total process of experience signifies enables us to know truth, while 'partial views,' such as we get on the way towards *absolutes Wissen*, are at once true and false—true, as necessary stages on the way to insight, and therefore as in harmony with the purposes of the whole; false, as needing supplement, and as showing this need through the contradictions which give rise to the dialectical process. In Hegel's *Logic* this view of truth is technically developed. With a different course of argument, with many original features, and with a more empirical method of investigation, a view of truth and error which belongs to the same general type has in recent times been developed by Bradley.

If one accepts such a theory of the 'degrees of truth and falsity,' and of truth as the harmony or

organic unity between a partial view and the ideal whole of experience or of reality, the essence of error—that is, of false opinion—must receive a new interpretation. In the history of the development of Absolute Idealism, the theory of error has taken, on the whole, two distinct forms.

(1) According to the first of these forms, usually emphasized by Hegel, error exists merely because it is of the essence of a partial view to regard itself as the total and final view, precisely in so far as the partial view inevitably passes through the stage of 'abstraction,' in which it defines itself to the exclusion of all other points of view than its own. Did it not pass through this stage, it would not be a live or concrete view of things at all. It simply would not exist. But (according to Hegel) the whole, in order to be an organism at all, requires the parts to exist. And, if the parts are—as in the case of opinions—partial views of the whole, and if the whole requires them to exist, each in its place in the system of spiritual life, it is the whole itself, it is the Absolute which requires the partial view to make, as it were, the experiment of regarding itself as true—that is, as an absolutely whole view. If a man is merely counting, he takes his objects simply as numerical; and then real things seem to him, as to the Pythagoreans, to be merely 'numbers.' Such a view, as an abstraction, is false; but as a stage on the way to insight it is inevitable; and as a concrete phase of opinion it is an error, that is, a positive belief in a falsity, or, again, a taking of a partial view for the whole. To be sure, this 'dwelling on the abstraction,' this *beharren* or *verweilen* in the midst of falsity, is a phase; and since, for Hegel (just as for the Pragmatists), the apprehension of the Absolute is a living process, not a static contemplation, this phase must pass. An experience of the 'contradictions of finitude' must in its due time arise, and must lead to the recognition that the partial phase is false. This is what happens in the course of the history of thought, when the successive systems of philosophy—each a partial truth, required by the necessity of the thought-process and by the life of the *Weltgeist* to regard itself as absolutely true—succeed one another with a dialectical necessity that tends to larger and truer insight. The same sequence of necessary errors, which are all of them partial truths taking themselves to be whole and final, appears in the history of religion.

(2) To Bradley, and to others among the more recent representatives of Idealism, to whom the dialectical method of Hegel appears in various ways unsatisfactory, this account of the way in which error arises, and, as a phase of experience and of life, is necessary, does not appeal. For such thinkers, error is, indeed, defined as a partial and (in so far) false view, which is not merely partially false and partially true, but takes itself to be wholly true. The existence of such a disharmony between part and whole, in a realm of experience where the metaphysical presuppositions which these writers accept seem to require organic wholeness and harmony to prevail, and to be of the essence of reality, is an inexplicable event, which must be viewed as in some unknown way a necessary 'appearance,' not a reality.

As a statement of the ideal of truth which is alone consistent with rational demands, the Idealism thus summarized seems to be, in great measure, successful. But its success is greatest with respect to the conception of truth as the teleological harmony or adjustment of a partial to a total view of experience and of its meaning. Precisely with regard to the problem of the possibility of error, that is, of disharmony between the demands of any partial interpretation of experience and that which is revealed and fulfilled by the whole of

experience, the idealistic theory of truth and of error has proved to be, thus far, most incomplete.

3. Conditions of a solution of the problem of error.—The foregoing survey shows that a satisfactory theory of error must meet the following requirements:

(1) It must be just to whatever interest in a decisive and unquestionably 'absolute' distinction between true propositions and their contradictory false propositions is justly urged by formal logic. That is, no account of truth and error in terms of 'partial views' and 'the total view' of experience must be used to render the contrast of true and false anything but a decisive contrast, as sharp as that between any proposition and its contradictory.

(2) The theory of error must take account of the actual unity of the cognitive and the volitional processes. It has been the office of recent Pragmatism to insist, in its own way, upon this unity. But Hegel, in his *Phänomenologie*, also insisted, although in another fashion, upon the fact that every insight or opinion is both theoretical and practical, is an effort at adjustment to the purposes of life, an effort to be tested by its genuine rational success or failure.

(3) The theory of error must recognize that truth is a character which belongs to propositions so far as they express the meanings which our ideas get in their relations to experience, and not in their relations to wholly external objects.

(4) That the rational test or the success of ideas, hypotheses, and opinions lies in their relations not to momentary experiences, but to the whole of life, so far as that whole is accessible, must also be maintained.

(5) The existence of error, as disharmony between the partial view which actively and, so to speak, wilfully asserts itself as the expression of the whole, must be explained as due to the same conditions as those which make possible finite life, evil, individuality, and conflict in general.

(6) Theoretical error cannot be separated from practical error.

(7) A revision of Hegel's dialectical method, a synthesis of this method with the empirical tendencies of recent Pragmatism, a combination of both with the methods of modern Logic seem, in their combination, to be required for a complete treatment of the problem of error. An error is the expression, through voluntary action, of a belief. In case of an error, a being, whose ideas have a limited scope, so interprets those ideas as to bring himself into conflict with a larger life to which he himself belongs. This life is one of experience and of action. Its whole nature determines what the erring subject, at his stage of experience, and with his ideas, ought to think and to do. He errs when he so feels, believes, acts, interprets, as to be in positive and decisive conflict with this *ought*. The conflict is at once theoretical and practical.

LITERATURE.—Aristotle, *Metaph.* vi. 4, 1027b. ix. 10, 1051b. On the Scholastic concept: Thomas Aquinas, *Summa c. Gent.* i. 59, *Summa Theol.* i. 17. 1. In modern philosophy: Descartes, *Princ. Phil.* i. 48, *Med.* v. 42; Spinoza, *Ethica*, i. prop. xxx., li. prop. xxxiv., *od de Emend. Intellect.*; Locke, *Essay on the Human Understanding*, iv. chs. 5, 20; Kant, *Kritik der reinen Vernunft*, Riga, 1781, p. 81. On recent discussions: W. James, *Pragmatism*, London, 1907, *The Meaning of Truth*, do. 1909; F. C. S. Schiller, *Humanism*, do. 1902, *Studies in Humanism*, do. 1907, art. 'Pragmatism' in *EBR* ii.; H. H. Joachim, *The Nature of Truth*, do. 1906; F. H. Bradley, *Logic*, do. 1883, *Appearance and Reality*², do. 1897; art. 'Truth' in *DHP* (contains an important statement of the views of C. S. Peirce). J. ROYCE.

ESCHATOLOGY.—The principal subjects treated of in this article are the 'last things' strictly so called—the idea of judgment and retribution, or of a Day of Judgment, Millennial ideas, the catastrophic end of the world and its renewal, and how the dead are related to that end of all

things. The different views regarding the state of the dead are discussed in the article STATE OF THE DEAD (see also BLEST [ABODE OF THE], MESSIAH, RESURRECTION).

r. *Savage races.*—(a) *Retributive notions.*—The question of the existence of the idea of future retributive justice among savages is not easily settled, as certainly, in some cases where it is believed in, it may be traced to outside influences—Hindu, Buddhist, Muhammadan, or Christian. Still, even here the idea must have been latent or already expressed in some form, else it would not so easily have been adopted. While a mere continuance of present earthly conditions is frequently believed in, distinctions according to rank, wealth, or power are commonly found. The future of the soul is also dependent upon the nature of the funeral offerings, or upon burial or non-burial, or upon the person having been tattooed, circumcised, mutilated in some particular way, or provided with certain amulets. An approach to a retributive doctrine is found in the wide-spread view—extending upwards to the ancient Teutons and Mexicans—that cowardice debars from Paradise or incurs actual punishment; courage being here a savage virtue which is rewarded. Again, since gods and spirits frequently punish in this life sins (not necessarily strictly moral shortcomings) against themselves—tabu-breaking and the like—it was easy to extend this to the future life. Hence, neglect or contempt of worship, ritual, tabu, etc., is frequently punished in the Other-world, or keeps souls out of the more blissful state.

This is a common belief in Melanesia and Africa (see *ERE* ii. 683f.; Brown, *Melanesians and Polynesians*, 1910, p. 195), in Polynesia (Ellis, *Pol. Researches*², 1832, i. 396f.), and in S. America (Naupés [Coudreau, *La France équinoxiale*, Paris, 1837, ii. 195 f.).

In certain cases crimes which are detested by the tribe, and therefore by the tribal gods, and which are severely punished on this earth by torture or death, are also believed to be punished beyond the grave—a natural deduction. These crimes are mainly murder or theft committed against fellow-tribesmen, sorcery, adultery, incest, as well as lying, and even niggardliness.

For examples, see Brown, *op. cit.* 195; Codrington, *Melanesians*, Oxford, 1891, p. 274; *ERE* ii. 685; Post, *Grundriss der ethn. Jurisprudenz*, Oldenburg and Leipzig, 1894-5, i. 41 (Amer. Ind.); Rink, *Tales and Trad. of the Eskimo*, 1876, p. 41; see also *ERE* iv. 256b, 256. Actual retribution (apart from outside influences) is also alleged among the Andaman Islanders (Man, *JAI* xii. [1883] 168, 162), Australians (Parker, *Norse Aust. Legendary Tales*, 1893, p. 96), Haidas, Salish, and other Amer. Indian tribes (Harrison, *JAI* xxi. [1891-2] 17; Wilson, *TES* iii. 303), Mintras of Malacca (Stelmeitz, *AA* xxiv. 582), Ainus (*ERE* i. 252a), Maasai (Merker, *ZS* xxv. [1903] 735). In most of these instances the nature of the punishments points to native ideas. In some cases the 'wicked' are simply annihilated (Grinnell, *Pawnee Hero Stories*, 1893, p. 355).

A judgment is necessarily implied where a division on various grounds, or actual punishment by the gods, or exclusion from Paradise is believed to take place in the Other-world; but it is only sporadically that it is expressly stated to occur (Khonds [Hopkins, *Rel. of India*, Boston, 1895, p. 530], Chippewas [Dunn, *Oregon*, 1844, p. 104], Guinea Negroes [Pinkerton, *Voyages*, xvi. 401], Ainus [*ERE* i. 252]). Some of the West African secret societies probably teach a future judgment. Out of such primitive views the idea of judgment in the higher religions was evolved.

The judgment may simply be an examination by some being or animal, to discover whether the person has the necessary distinctive mark which admits to Paradise, or has done certain things according to custom in this world (Codrington, *op. cit.* 256, 257, 265, 290; Pinkerton, iii. 303 [Massachusetts Indians]). In other cases some ordeal, appointed occasionally by a divinity or spirit, has to be undergone, which tests the man's fitness for the blissful region (Schomburgk, *Reisen in B. Guiana*, Leipzig, 1843, iii. 518; Thomson, *The Fijians*, 1903, pp. 121, 125, 128). Or it may consist in sending the good by one road leading to Paradise, and the bad by another leading to a place of pain (Mooney, 'Siouan Tribes,' *Bull.* 25 *BE*, 1894, p. 43; Bancroft, *NR* iii. 524 [Karok]; Coudreau, *op. cit.* ii. 195 f.). Or, again, the bridge