THE CONCEPT OF CHANGE.

THREE clearly distinguishable points of view in turn have been assumed in the following pages from which to regard the phenomenon of change. As to the fact in question there is no dispute; it is only when we come to give an account that shall attempt to define its ultimate significance that disagreement enters. Without aiming at exhaustiveness, it may serve to place the subject in clearer light if we look at it from the standpoint: (1) of the logician, (2) of the psychologist, and (3) of the metaphysician.

I.

Minto tells us that the new spirit which was aroused by reaction against the mediæval temper has issued to the modern world the mandate: "Bring your beliefs into harmony with facts."[1] Whatever is true of other departments, the effort has been made by modern physical science to state its conclusions at the end of a careful investigation of the actually observed phenomena of nature. But with this aim, and under this motive, certain modifications have been introduced into the method of science, the full exposition of which has been the most fruitful task undertaken by the science of logic in its later developments. It does not fall under our purpose to unfold a general theory of scientific method, but to call attention to the way logical treatment of the phenomena of change obliges us to conceive of those facts, into harmony with which we are exhorted to bring our beliefs. While it is true that the older logic constantly keeps in mind the obligations of proof, it has not been forgotten, as Sir John Herschel has said, that "the goal of science is explanation"; and what the newer logic enables us to do is clearly to realize the conditions necessary to an explanatory science, and to bring the final results of such science to definite and accepted tests.

Were change not a property of bodies, that is, did we live in a static world, there could be no science of molar physics.

[1] *Logic, Inductive and Deductive*, p. 243.

Whatever the particular relations that come to be emphasized in the explanation of the fact of change, unless there had been in experience a changing order of perceptions, the necessary motive to scientific effort would have been wanting. In the first instance, the source of all our ordered understanding of nature lies in the apparent disorder of nature, and it is among the larger and more obvious classes of facts that the first attempts are made to introduce system. *Science*, that is, *springs out of the conflict of wishes with facts, and is at bottom the effort to satisfy a vague, undifferentiated æsthetic sense which shows itself at first under the demand for order and unity.* The primitive consciousness of what is æsthetically satisfying, and the restraint under which the human spirit lies so long as the objective world presents itself hap-hazard, gets expression for itself, earliest as well as latest, in the refusal of the human mind to believe that the phenomena of perception *cannot* be reduced from the changing order to a rational system of relations. And herein we see that the modern effort to rationalize beliefs, by making them dependent upon objective fact, is ultimately dependent upon the more primitive demand of the human mind upon itself, to substantiate its beliefs by compelling the sensuous continuum to conform its behavior according to rule. It is out of the conflict of these two movements that progress has been made in the scientific treatment of natural phenomena.

When attention is called to the importance of 'fact' for a scientific investigation of the phenomena of change, we are in danger of assuming too restricted a definition of the term. Although in the first place it is the differences in the 'crude lumpishness' of things that has attracted the observation of men, and that provides the push-stone of the scientific impulse, it is not merely these differences that have to be accounted for in the final outcome. Indeed, it is but a very low order of fact that is here taken cognizance of, and their value, from a scientific point of view, depends upon the ability of the investigator to frame hypotheses which shall unite the diverse multiplicity into a complex unity, and thus to bring to light within the order of nature a *new class of facts.* The vice of that school of philos-

ophy of which Hume is *facile princeps*, has borne legitimate fruit in obscuring the objective validity of the categories of the understanding; but among scientists themselves the more ultimate questions are coming to be regarded not only as inevitable, but as legitimate, and they are taking a calmer view of the situation.[1] And this tendency is seen in the wider definition of which the term 'fact' is recognized as capable. A fact is whatever belongs to the objective order; and the objective order has its laws as well as its phenomena, and the former no less than the latter are 'real facts' without which the latter would not exist, as fact, at all. To illustrate: The facts of which molar physics takes cognizance are masses and their behavior; and that particular behavior of bodies of which it has to give account is their change of position, or motion. When, therefore, this science is defined as "including the phenomena of motion and force as belonging to bodies in the aggregate,"[2] it is evident that different orders of fact are comprised in the phenomena of which it treats. That, and to a certain extent what "bodies in the aggregate" are, we are informed through the avenues of sense-perception; but it is not mere aggregate masses, however imposing, that form the subject matter of molar physics. Rather is it these masses conceived of as capable of motion, and of exerting and resisting force. Here, however, it is necessary to remark that we have, without going outside of scientific definition, left the sensible order of experience, and have made appeal to another conceptual class of facts, which are now presented for study as if they had the same amount and kind of evidence as make 'facts,' in the ordinary meaning of the word, 'such stubborn things to deal with.' And we may add that when, at the conclusion, the attempt is made to state the laws which correlate and conserve the various operations of force, and which determine the direction and momentum of all resultant motion, we have taken a step still farther away from the assured ground from which we started in sense-perception. But it should be observed that this extension,

[1] W. K. Clifford, *Body and Mind*, p. 1; Cf. Stewart and Tait, *The Unseen Universe*, 6th Ed., p. 220.

[2] Bain, *Logic*, p. 451.

in a logical way, of the foundations and conclusions of molar physics does not invalidate the fact of motion; it only points out, what will become clearer later on, the line along which it is profitable to seek for its fuller explication. In other words, we conceive it to be the distinct function of logic to draw attention to the procedure of science in this way, in order that the right degree of weight may be given to the evidence for precisely the explanation of the fact of change which it furnishes.

In a logical treatment of the concept of change, we are not limited to a criticism of scientific processes and conclusions; we must, on the contrary, advance to a consideration of the principles contained in, and on which reposes the logical use of the understanding. Passing over the generally accepted opinion that we cannot construe the principle of identity without implying a principle of difference, we shall carry the appeal of this section, in conclusion, to the principle of sufficient reason, to find out what, with regard to the concept of change, it may have to tell. In general it is according to this principle that our reasoning as a logical procedure is carried on. Or, to state the same truth concretely, it enables us to ascertain what the formal conditions are on which any given X may be regarded as a case of A. We may, that is, make the judgment, X is A, bring the unknown under the known term at the end only of a course of reasoning, and the conclusion, a judgment presided over by the principle of identity, is true, provided the individual judgments that are its grounds are not mistaken, and provided that the 'reason' for the terminal judgment is what, from the point of view of logic, is regarded 'sufficient.' It is, however, the process of inference, and not the truthfulness of the intermediate judgments, that is of importance for our present purpose. It is the fact of inference in the developing life of mind, and the extension of knowledge along lines laid down by the principle of sufficient reason that emphasizes the importance and marks the scope of the concept of change. For it is according to this principle that we are warranted in grasping together in one complete view the multiform diversity of sensuous experience. In this way do we give ontological significance to our thought forms; or, what is the same

thing, interpret ideally the objects of sense perception. For the principle of sufficient reason, in its common logical use, is a valid principle of thought only on the supposition that the forms of thought and of things are fundamentally at one. But this is only to say that correspondent with the changes which take place in the process of inference, are to be found like changes in the order of nature; or, in other words, that the concept of change is a true concept implying a valid grasp upon reality, whether minds or things.

Further interpretation of our concept in the light of the principles of logical thought, reveals the fact that change is by no means a simple affair, and does not take place in uniform directions. This would be the case if we were confined to the single principle of identity. The self-identity of any object is *eo ipso* other-excluding. It is otherwise with the principle of sufficient reason; for the unity at which it aims is the unity of totality. This means that change has to be conceived of as taking place in a number of directions; and, theoretically, there is no objection to the supposition that nothing is really itself until it has connected itself immediately or mediately with every other known thing in the world. The principle of sufficient reason, that is, when worked out in detail, determines the conditions on which, from a logical point of view, change is possible; or, to use the words of Kant, "All possible experience therefore, that is, all objective knowledge of phenomena with regard to their relation in the succession of time, depends on the principle of sufficient reason."[1]

II.

When we propose to ourselves a treatment of the concept of change from the psychological point of view, we understand that something more is required than the testing of psychological theory by rules laid down by the logic of consistency. It is no doubt necessary that into that view of the nature of this science, which we feel justified in accepting, there be allowed to enter no false reasoning, and that we admit freely the right of logic to tell

[1] *Critique of Pure Reason* [Max Muller's Translation], p. 164.

us whether the evidence is sufficient to warrant the conclusion at which we arrive. Indeed, in proportion as we feel compelled to ally ourselves with those who are persistent in the cultivation of this discipline as one among a number of other sciences, we are forced to the admission that the results, both general and particular, to which we are led are reliable judgments, if the grounds upon which they rest are considered adequate, from a logical point of view. But it is evident that, before the application of logical tests can be instituted, we must have made some advance in our description and explanation of the facts of which psychology more particularly treats; for logic, either as a science or an art, does not do our work for us, but passes judgment upon it after it is completed; and the question we raise is, whether in the particular task of investigating states of consciousness, psychology finds any trace of the fact to which our concept bears witness, or furnishes material for the formation of the concept itself. In other words, is it a true concept with which we are dealing, organic, so to speak, to the mind?

That no off-hand reply can be given to this inquiry may be shown from the historical point of view. Closely connected with the question of what general view ought to be taken of the studies psychology cultivates, has been associated the metaphysical question concerning the nature of the mind itself. To speak in scholastic terms, two opposed standpoints have been assumed: the one regarding the mind as 'pure passivity,' and the other as 'pure activity'; and, in a general way, we have, answering to these attitudes, the nature of our science described as 'analytic,' and 'genetic' psychology. According to the former, we have to take to pieces the complex products of mental life, in order to show into what simplest elements they may be reduced; according to the latter, we have to trace the life history of mind as a growing product. It is instructive, however, to note that the method which each school adopts is rather suggestive of the claims of the other; for, if we take Kant as representative in the one case, we find him keen in his *analysis* of psychic phenomena, and if Hume may be introduced as chief on the other side, is he not an adept at the *construction* out of sensations and ideas of the

whole mental outfit of man? It would seem that while extreme claims have been made on both sides, a well-balanced judgment has been gaining ground, and to-day we cannot be partisan with regard to either position, and are adopting, as well in our processes as in our results, elements that belong to both. No longer in our most general view of the subject can we ignore the fact that the mind is in no sense an Eleatic 'One,' but is undergoing perpetual change; and, indeed, it is this fact that differentiates and constitutes the unique problem of psychology. The modern point of view, therefore, is not unfriendly to the supposition that psychology may have something to say concerning the concept of change.

To bring this position to more positive psychological tests, we may briefly refer to the question of the compounding of sensation. The problem here is to determine whether concepts are formed by the addition of simple elements of sensation, or whether there is, in and beyond the phenomena, that which accounts for their particular direction and result. In the former view, the explanation is found in the extension to mental facts of the laws that obtain, for example, in molecular physics. With notable difference in the line of defence, this is the aim that unites the so-called 'new' psychology with the phenomenalist doctrine of Hobbes and Hume. This opinion may be rejected for two reasons: (1) because it has never yet been shown that so much sensation invariably follows so much stimulation. And if we look at the question from the introspective point of view, we are no readier to accept the mechanical view, because (2) our sensations do not come trooping one by one into the field of attention. The keenest analyst of mental life has never yet been able to isolate a single sensational element; the sensational basis of life has not the fixity that is the condition of success. The fact is, as every one knows, that sensations present a regular *mêlée;* they are fluid as a stream. And the problem of compounding is not so much one of getting sensations to fuse together as of keeping them sufficiently apart so that a definite character may be given to certain areas which have a relatively more important interest for the moment. Or, to put the same truth another way, the

question of sensation-complexes is really a question of attention, and of the discovery of the meaning of the already complicated, lawless stream of sensation. And when we approach the problem in this way, we recognize that our only advance in the progressive mastery of this rude and satyr-like horde is by learning the secret of their life from themselves. There is, in other words, a law of their becoming which is not contained as an element of perception, but is present in it as a principle of differentiation and integration. And this is the other view mentioned above. We need not deny the content of consciousness, nor must we ignore the activity of consciousness, for there is no way of organizing experience without the recognition of something more than bare, unmediated sensation. The impossibility of the attempt and the manifest confusion to which it leads is the protest of the principle itself, and the only escape from the denial of an ordered experience, not to say knowledge, is its full recognition. Thus, then, are we led to recognize the truth that *both content and form are conjoint factors in every mental experience, due to the fact that activity, working in and through both, manifests itself as a law of development, a principle of becoming;* and this cannot be reduced to simpler terms.

The validity of the concept of change may, further, be shown by reference to the psychology of perception. Perception is essentially an object-referring experience; it is likewise a localizing experience; and the two go together. Not only in perception are objects given, but they are given in a particular place and time. Hence not only do we name things, *e. g.*, tree, boat, sky, etc., but also use words definitive of position, *e. g.*, here, there, now, then, once, etc. But the completed act of perception, expressed in the form of a judgment, includes both sets of terms, *e. g.*, here is an axe. Already, it is seen, we are building upon the lower stages of sensation; for any object is only as the result of the compounding of sense-impressions, which compounding, as we have indicated, is accomplished according to an implicit law of association in all mental functioning. But what makes the sensation complexes pass from the relatively unstable and rudimentary stage to the more permanent and complex is

the fact that in perception new relations of space and time, objective relations, are introduced into the object as mere object, *i. e.*, as mere complex of sense-impressions, and made to stand in an order of experience which develops according to the same law or principle of becoming. Not any time or place can be predicated of any object, but only such a time and place as is possible in relation to the entire world of objective experience. And this fact of limitation points to an essential principle in the process of perception; namely, that, while change is a condition of the growth of the objects of sense-perception, permanency, *i. e.*, limitation of the whole process of change, is no less fundamental to this class of objects. Unless objects were formed not only in obedience to internal consistency—the position of the Idealist—but also to external possibility—the position of the Realist—perception would not be possible; for it is just these external, objective relations that are most prominent in every perception. While, therefore, as a psychological fact, objects may be regarded as constituted by perception, they do not pass away in perception, but remain vitally connected with all previously perceived objects. And this inter-relational character of the objects of perception is the important element for our present purpose, because it is only another way of stating that the fact of change is a constant accompaniment of the principle of differentiation, which is operative in all the processes of mental life. Every new object, from this point of view, is a new differentiation, and is an achievement of the law of the organic development of mental phenomena.

A complete discussion of the concept of change in its psychological features is not possible without reference to the place and function of will in the growth of mental faculty. It would be easy, in this connection, to overestimate the importance of conation as a self-conscious, directing force—the determinant, *par eminence*, of change on the side of the subject of states. This seems to be the tendency of a recent contributor to the *Psychological Review*, in an article on "The Growth of Voluntary Control."[1] The difficulty of the subject is, of course, connected

[1] Nov., 1899.

with the question as to how the claims of mental mechanism and conscious interference are to be adjusted. Or, perhaps, to state the problem in another way, we may raise the question of fact, whether both terms of the contrast are not rather variant expressions of the fundamental phenomenon of change in different degrees of development. If, as I should be inclined to hold, this is the true standing of the case, we have not so much the problem of mediating 'freedom and mechanism' by 'control of will,' as the necessity for a clearer description of the facts involved in the growth of mental life from its inchoate beginning to its more completely organized and conscious forms. And what we notice is not that mechanism gives way to freedom, but that change takes on more complex functions as experience increases. There is, that is, a gradual self-unfolding in which the self becomes progressively more conscious, not merely of itself, but also of the ends toward which it bends its energies. Change, that is to say, does not take place as a matter of antecedent and consequent in time, that is, as an external phenomenon of some unchanging, permanent subject of states, but in obedience to a principle of becoming, which is of the very nature of the subject itself.

III.

The purpose of metaphysical endeavor is to establish the objective validity of the principles of human thinking. Limited to our present subject this means that we are to construe the concept of change in such a way that it shall be shown to apply to and be embedded in all we call real. But this object imposes a determinate point of view, which may be indicated in the following brief way. In the history of philosophy, under a variety of opposing terms, not a little learning has been devoted to marking the distinction between phenomena and noumena, in the effort to restrict all judgment to the former, the latter being regarded as that about which we cannot predicate anything with certainty. The value of philosophical scepticism, discriminating in this objective way between the objects of a possible knowledge, may easily be overlooked, because the distinction itself depends upon

a certain limitation under which the mind of the sceptic has chosen to think. When phenomena are declared to be the only objects of the knowledge of man, we may accept the statement, if at the same time we are allowed to add 'from a given point of view'; and then there need be no hesitancy in affirming, in respect of noumena, that this is a limiting concept without positive characteristics. If by the limitation of the objects of knowledge to phenomena, it is intended to specify the subjective character of the noetic process, and to emphasize the mediacy of all so-called knowledge of things, we may regard the position as enforcing the validity of the claims of psychology as the investigation of 'states of consciousness, as such.' Even if the scepticism of which we are speaking becomes dogmatic, and develops a doctrine of philosophical relativity, for the most part it will be safe to agree with what is affirmed; for no one need be concerned to defend the metaphysical reality of a knowledge which is not a possible knowledge for finite intelligences. There is, at least, so much connection between our metaphysics and epistemology that it will be a fruitless task to attempt the construction of the real world, to educe and clarify its principles, unless in the first place it is possible to gain a knowledge of the world that is real. We may therefore say: *It is from the point of view of the philosophy of knowledge that the metaphysics of change has to be elucidated.*

What, then, are we warranted in affirming, on the basis of a critical epistemology, with regard to the questions raised in this section? Two points are chiefly concerned: (1) The metaphysical character of human knowledge, and its implication of the reality of change; (2) the character of the changes to which our knowledge certifies.

Epistemology and psychology are both concerned with the subject of human knowledge. Their distinctive function has been marked in the history of philosophy by the distinction between what the object of knowledge *is* and what it *seems to be*. Thus when we say that reality is the characteristic of all we most surely know, we are simply affirming that this cannot be reduced to mere appearance or seeming-to-be. This, again, is only the rec-

ognition that there is a difference between that knowledge whose description and explanation is given by psychology, and knowledge the truth and principles of which are the established results of a critical epistemology. In other words, we cannot rise to the highest certainty except as we acknowledge both the dependence and unique difference of these two ways of attaining truth. If, however, we would emphasize the distinctive character of the mind's attitude toward its object when it seeks to know most fully, we should have to remark a certain determination to make it tell the truth about itself, and a readiness to accept, *pro tanto*, the account it gave. From the psychological side, of course, this would only mean that into all our knowledge there entered an exercise of will followed or accompanied by an emotional satisfaction as the subjective process came to maturity. But this is not all the truth of knowledge there is, nor are these the final terms in which the facts of the case are to be stated. For why should there be so strenuous an effort to know, if all this were merely a subjective pantomime of shadow-shapes? Unless there was something to be known, a reality to be grasped, why should there be any grasping to be done by the mind which is to know? From the point of view of the philosophy of knowledge, that is, the rise and fall in our subjective states, in our best efforts to know the truth, are due to the tactfulness of our endeavor to bring subject and object into such reciprocal relations that they may be mutually respected. Nor is this all. For while we are sometimes very awkward in our approaches to reality, and suffer in consequence, our most successful wooings of nature are never unattended by emotional accompaniments. That is to say, the known thing is not a passionless being, and we are not unaffected by the way it presents itself to us. Knowledge is a *reciprocal* relation, and the change of states which we feel ourselves to experience, is a witness alike to the activity of the knower and the known. Thus we may say that the concept of change is a principle of knowledge, because it is a mode of activity which belongs, in the last analysis, to the ontological implications of knowledge. There is a transcendant quality in the activity of mind called knowledge, the correlate of

which in the ontological sphere is the fact of change in some form or manifestation. "It is not simply a permissible postulate to hold that change in my perceptive consciousness is explicable because change is actual in the world of things. It is rather the necessary presupposition, the inevitable import of all perceptive and scientific knowledge of things, that they actually do change." [1]

Nor must we suppose that the differentiating principle of knowledge, by which we take hold of the concrete changes in the world of reality, is merely a sea-saw movement of the mind between subject and object due to fatigue of attention. On the other hand, we wish to insist upon the simultaneity in knowledge of object and subject, whether the object be self or thing. We do not know self or things because either has temporal priority, but because knowledge implicates, in the very activity it is, whatever is said to be known. Hence the changes we know ourselves to undergo cannot be regarded as more certain and valid as knowledge than the changes in which the knowledge of things is given. If self and things form a system of being, inter-dependent and other-conditioning, the objectivity of the one can be no less real, or real in a different sense, than the objectivity of the other; the objective validity of both is certified by the actual process and act of cognition.

When appeal is made to actual cognitive experience of the changing world of things and minds, the difficulty of metaphysical theory is enforced from the number and direction of the concrete changes which the elements of that experience undergo. It is this fact which makes the mechanical theory of nature so unsatisfactory from the point of view of the philosophy of nature. But it might be a pardonable shortcoming, when the data are so numerous and complex, if the offered explanation adequately covered part of the facts, facts of a particular class or group. But we find that the fundamental problem has not been clearly perceived. It is not mere change, change unlimited in scope and character, that arouses the spirit of critical inquiry; change becomes a problem when the limits of change come into view,

[1] Ladd, *A Theory of Reality*, p. 148. Cf. *Philosophy of Knowledge*, pp. 360, 361.

when the things that change can change no farther without at the same time ceasing to be. In other words, the apparent opposition of permanency and change, unity and succession, not only within the totality of the one experience, but likewise in the unity of the one object of every momentary experience, raises questions which the 'theory' of mechanical science has not only not answered, but which, it is plain, it has not understood. For, in the interest of an unalterable fixedness of the elements of experience, the fact of change has been reduced to a discrete difference among the objects of knowledge related to one another in an external way. Thus, if we take the definition of Kirchoff,[1] we learn that mechanics is "the science of motion; we define as its object the complete *description* in the *simplest* possible manner of such motions as occur in nature." It is evident, then, that the question of interpretation is given up, either as not constituting a separate inquiry apart from "description in the simplest possible manner," or as beyond the scope of the science of motion. But we would suggest that to confine the inquiry of mechanics to the "description . . . of such motions as occur in nature" is to take an external point of view, and does not carry us, in the problem of change, beyond the fact of change itself. Now, it is this fact that *is* the problem, and it can only be solved by interpreting it in terms of the higher life and purpose of the world. The theory of mechanism, therefore, does not fairly face the difficulties of the problem, if indeed it helps us to its clearer appreciation.

"Change must find its way to the inside of being."[2] This is the only possible alternative. It is the dynamical as opposed to the mechanical conception of nature. The two theories are dependent upon which of the two contrasted terms, permanency and change, is regarded as primary. If permanency be considered the fundamental fact, change must be made harmonious with it, and the result will be some form or other of the theory already considered. If change seems more characteristic of the world as we know it, permanency will then be a phase in the progressive development of the cosmos. This is the theory of dynamism.

[1] *Vorlesungen über mathematische Physik*, Bd. I, *Mechanik* § I, Berlin, 1876.

[2] Lotze, *Metaphysics* (English Translation), Vol. I, p. 106.

It involves a conception of nature from the point of view of its *potentiality* (δύναμις). Now, it is interesting to note, that whatever success may wait upon our effort to explain change as an alteration in the space and time relations of static objects of experience without appeal to self-consciousness, there are no items of objective experience which enable us to account for the reality of change from the dynamical point of view without such appeal. The theory, in other words, is confessedly psychological. It is only as we interpret nature, so to speak, as a larger self, that we can understand the attribution to it of 'resident forces,' or ascertain the nature of these inhering potentialities. But this does not destroy the scientific character of the resulting knowledge. For if things are, and are as they are known, the psychological method of investigation brings them within nearer range. For, from this point of view, what is the object of knowledge but the consciousness of the process in which it lives and moves and has its being? The formal conditions of the act of cognition, that is, indicate the presence of change in the intellectual, affective and volitional states in which the changing object of knowledge is given.[1] And would the account differ very materially if self-knowledge and not thing-knowledge were the objective of knowledge? Only in this case there would be a clearer consciousness of the coming-to-be which all knowledge implies. Or, to utter a paradox, an object, thing, or mind, never is what its states indicates it to be, but these states are what it necessitates them to be. Thus permanency and change are both factors in the growing life of the world. The cosmos is both ideal and real, and it is the ideal character of the world-reality that both occasions change and makes this a necessary principle of our knowledge of the real.

The epistemological concept of change has not received final metaphysical treatment until it has been shown to involve for human knowledge the orderly development of the world of knowledge. The necessity is urgent of defining more particularly the law in accordance with which change goes on: the process of change is not self-explanatory.[2] Metaphysically, it is being that determines becoming, and not *vice versa*. But it is

[1] Cf. Ladd, *Philosophy of Knowledge*, pp. 100, 101. Also pp. 212 f.
[2] James Seth, *Ethical Principles*, 3d. Ed., pp. 430–434.

not the Being that *is*, that provides us with our cue, but the Being that *is to be*. Hence, as we have said, all change must be conceived as taking place according to ideal ends. This is not merely the dream of the philosopher but the truth of science. "The supreme message of science to this age," according to Drummond, "is that all nature is on the side of the man who tries to rise . . . an ascending energy is in the universe, and the whole moves on with one mighty idea and anticipation." [1] And if we would interpret aright a universe so ministrant to man, it is man who must provide the key; for in man is self-conscious life, do we know more intimately and clearly what it is to move in anticipation of the end. It is this universal note that has been struck by the poet who exclaims,

> "Oh for a man to arise in me,
> That the man I am may cease to be."

Our principle of becoming, therefore, must be a principle of human nature, if it is to take in all the known changes of the world; it must not be a mere empty form, but a formula which has its application to all concrete changes of real being. The concept of change, as an epistemological postulate, has for its correlate in metaphysics a principle which seeks to embody the characteristics of the changes real being is known to undergo. What kind of a principle this is has already been sufficiently indicated. It cannot, without carrying the subject into the higher fields of enquiry connected with our moral and religious life, be more fully determined. But the farther we carry the inquiry along the speculative line, the nearer we come to the outstanding practical import of conduct and faith for our fullest understanding of all that can maintain its right to be called real. If, at present, all that we can say is that the universe manifests itself not as permanent and unchanging, but as a cosmic whole which unfolds according to a law which is autonomous, and infolds within itself all the known differences of the real, this is only to state that our highest unity is the unity of personality, and our final law the law of self-directive reason.

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[1] *The Ascent of Man*, p. 340.