

## A PLEA FOR SOUL-SUBSTANCE. II.

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*'De Natura Animæ.'*

This inquiry into the nature of the soul, or, more exactly, into the nature of soul-substance, is the sequel to a former paper on the existence of soul-substance. The contents of that paper were as follows:

1. An introductory statement of the causes for the unpopularity of conceptions of substance in modern philosophy and particularly in modern psychology.

2. A description of the central problem of explaining the apparent interaction of the world of Mind or teleological law, and the world of Matter or mechanical law.

3. An outline of the five hypotheses actually used in the solution of this problem of the seeming causality between incommensurates, to wit:

*a.* Absolute Teleology—the denial of efficient causes.

*b.* Materialism—the denial of final causes.

*c.* Occasionalism—the co-reality of mechanism and teleology admitted—their mutual interaction being explicable only by miracles.

*d.* Parallelism—the admission of both realms as real, but their apparent interaction explained as an illusion due to a complete parallelism.

*e.* Spiritualism—the theory of a soul-substance different from mind and matter, yet partaking of the nature of both—therein explaining the possibility of real causality between the two spheres.

4. An exposition and attempted refutation of the first four theories—especially of Parallelism.<sup>1</sup>

<sup>1</sup>In this refutation of Parallelism I made use of the fact that concomitant variation excluded Parallelism. There seem to me to be a certain obscurity and

5. An indirect proof of the existence of soul-substance based on the failure of all other possible solutions of the problem. Direct proof based upon the axiom of "No action at a distance."

6. Conclusion—exposition and proof of the three requirements to be fulfilled by a valid conception of Substance in order to distinguish it from (*a*) the 'Ding an Sich,' (*b*) the 'additional attribute,' (*c*) the 'totality of attributes.'

It is the explicit purpose of the present paper to show the nature of the soul-substance the existence of which is to be regarded as proved in the first paper. To accomplish this task it is necessary to show that experience affords us an example of a mode of sequence which, while it is neither merely mechanical nor merely teleological, is nevertheless (1) simple and intelligible in itself; (2) related to efficient and final causality as genus to species, and (3) as species to genus.

Such a mode of experience would be the direct expression or definition of the nature of soul-substance. Its substantiality

imperfection in the argument as there given, and I therefore take this opportunity of supplementing it by the following statement:

Notwithstanding the fact that Mill (*Logic Bk. III. Ch. 8*) regarded the Method of Difference as superior to the Method of Concomitant Variations, yet it seems to me that the latter method is by far the more cogent, supplementing, as it does, the Method of Difference very much as that method supplements the Method of Agreement. The Method of Agreement gives a probability that *A* is at least part of the cause of *B*. The Method of Difference gives a certainty that *A* is at least part of the cause of *B*. The Method of Concomitant Variation gives a certainty that *A* is part of the cause of *B*, and also a probability that *A* is the whole cause of *B*, which probability approaches certainty as the concomitance approaches perfection. The ground of our belief that *A* is not merely a part or 'collocation' of the cause of *B*, but the whole cause itself, is the fact that for every part of *B* there is a corresponding part in *A*, and that there is nothing in *A* without its correlate in *B*. The concomitant variation of the ratiocinative and physiological sequences, which is admitted by the parallelist to be perfect or complete, carries us beyond parallelism; for if it is complete, it implies a correspondence of every infinitesimal part of the one process to every infinitesimal part of the other. Such a type of relation is perfect as to its homogeneity and is all that we can mean by causality. Just as two parallel lines when prolonged to infinity cease to be parallel, and just as two similar objects if their similarity were infinite would cease to be similar and become identical—just so a *psycho-physical parallelism when it is made as perfect as it claims to be—and must be—ceases to be parallelism and becomes causality*. In short, the parallelistic theory when closely examined is seen to be necessarily and peculiarly self-transcendent.

with respect to the mental and material attributes would be provisionally manifested in its appearance as the common Limit approached on the one hand by a series of teleological sequences, becoming more and more perfect, *i. e.*, more free from the taint of contingency—and on the other hand, by a series of mechanical sequences approaching mechanical perfection or absolute independence of all teleological references.

The resemblance between the concept of Limit and the concept of substance is sufficiently striking to demand careful consideration. What is a mathematical limit? It is the goal or end approached by a series, *e. g.*, the sum of  $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots$  approaches 2 as its limit. Now 2 is a perfectly definite thing with a perfectly real and definable nature; at the same time it differs absolutely from the sum of  $n$  terms of the series, when  $n$  is any number we please. If we represent the sum of the first  $r$  terms of this series by  $\Sigma_r$ , we may express our series thus:  $\Sigma_1 \Sigma_2 \Sigma_3 \Sigma_r \dots 2$ , where 2 is the limit or last term of the series. It is to be noted that the members of this series (so far as they are viewed serially, *i. e.*, as interrelated) have one common quality which makes us classify them as members of one series. The influence of the limit of a series is present throughout the series determining the relations of the members to one another precisely as the Universal of a class is present in each of the particular members.

The limit differs, however, from the mere Universal in two highly important points:

1. While it is admitted by all except Platonists that the Universal can never exist apart from or independently of its particulars, yet it is perfectly evident that the Limit can and invariably does exist as prior to and aside from the members of the series which approach it.

2. The Universal can never be made a member of its own genus (although Aristotle accused Plato of doing that very thing); while, on the other hand, the Limit is always a member of the series which it determines, *e. g.*, 2 is the last member of the series given above, and it is also a member differing from all previous members in that it alone is an integral number. Thus it appears that the Limit has not only the generic char-

acter common to all universals, but that it also has the individual character of existing and of being known independently of anything outside. And last and most remarkable, it has the characteristic of being a member, and a wholly unique member, of its own class (series).

When we affirmed that the substance concept must possess the three qualities of being :

1. Self-intelligible.
2. Related to its attributes as genus to species.
3. Related to its attributes as species to genera. We might well have felt that modern philosophy was fully justified in repudiating such a thoroughly inconsistent and paradoxical notion as that of Substance. And yet in the familiar and useful conception of a Mathematical Limit we are able to see with the greatest clearness and certainty all of these three essential properties of Substantiality. By virtue of its knowability and definiteness, the concept of substance, like its mathematical brother the Limit, differs from Pure Being or from the Ding an Sich ; by virtue of its generic character it differs from all particular qualities or atoms, and by virtue of its specific character it differs from universals or ideas.

In view of these considerations we shall be guided in our search for the nature of soul-substance by the well-known method of Limits. We have for our problem given the nature of the attributes (*viz.*, mind and matter), and the fact of their interaction—to discover the nature of the Medium (*viz.*, soul-substance), in virtue of which the relation of these attributes is possible.

Our undertaking will be divided in two general parts.

1. The search for the limiting forms or perfect types of mechanical or material relation.
2. The search for the limiting forms of teleological or mental relation.

First, then, we have to seek for the limiting or perfect form of mechanical causality or of the relation between facts as such. Take the following case: I hear the word 'Jacques,' and immediately there presents itself to my mind a picture of a melancholy fellow in a green doublet; following upon this picture there comes another picture of another melancholy man in a

red cloak. I am a school boy commanded to write a composition on 'As you Like It,' and I write the sentence, "Jacques resembles Hamlet." This is a typical psychical sequences, and without attempting the impossible task of a complete analysis of what occurs, it will at least be useful for our purpose to note some of the more obvious factors at work in the process. In the first place, Hamlet and Jacques both possess the quality of 'melancholy,' hence I have a rational ground for asserting their resemblance. Hamlet is associated with Jacques as co-member of the same species. This then is the teleological ground of my judgment regarded as a psychological sequence, and when so regarded it is usually called Association by Similarity. In the second place, I write down the sentence, "Jacques resembles Hamlet." I write this because I want to finish my exercise in composition as soon as possible in order to be free to go skating. I do it to fulfill a want or need of my immediate organism. This desire for satisfaction, or aversion to dissatisfaction, may be called the organic or biological cause of the action. In the third place, the image of Jacques in a *green* doublet calls up the image of Hamlet in a *red* cloak—why this change of color? Upon reflection I cannot remember ever having seen Hamlet dressed in red, and yet it is this color and no other that is presented with vividness to my mind's eye. We know, however, that green and red are complementary colors, and that one is apt to call up the other owing to what is probably a chemical change in the substance of the retina. Let us then call this the chemical cause of the process. And now there is one more type of causality at work in the production of this judgment. It so happened that I read 'Hamlet' and 'As You Like It' together. As a consequence of this fact, the sense impressions of the one play are very closely bound up with those of the other. The two sets of personages are associated by Contiguity. No one doubts the validity of this psychical law of Association by Contiguity. Some psychologists, in their praiseworthy ambition to banish final causes from their science, even go so far as to reduce Association by Similarity to a mere complex kind of Association by Contiguity. Inasmuch as Contiguity is a mechanical and temporal affair, while Similarity

is teleological and non-temporal, we may assume, on the strength of the criticism of Psychophysical Parallelism given in the former paper, that this attempt at simplification is doomed to failure. It may perhaps be asked on what grounds we select the law of Association by Contiguity as the distinctively mechanical type of mental causality. By way of answer let us consider what probably happens when two ideas are associated by Contiguity. A sense impression  $\alpha$  is suggested to the mind at a given time  $t_1$ . Another sense impression  $\beta$  is suggested to the mind at a later period of time  $t_2$ . Physiological psychology warrants the supposition that at the moments when  $\alpha$  and  $\beta$  are perceived there are two physical modifications  $a$  and  $b$  induced on the matter of the brain, and the same science also warrants us in supposing that, corresponding to the mental process of  $\alpha$  arousing  $\beta$ , there is a physical process consisting in the communication by spatial transition of something in  $a$  to something in  $b$ . Experimental psychology proceeds further, and assures us that, other things equal, the rapidity and the certainty or constancy of the association between  $\alpha$  and  $\beta$  varies inversely as the length of the time interval separating  $t_1$  and  $t_2$ . Granting these facts, we have the case of a mental sequence conforming exactly to the laws which govern a purely physical change, *i. e.*, a change from one position in space to another. The rapidity and certainty of this change moreover are measured by the 'distance' between the two positions. From this it follows that we are justified in the assertion that in Association by Contiguity we have a case of psychical sequence conforming to the quantitative laws of mechanics.

So much for the four kinds of causes which we may call the Teleological, the Biological, the Chemical and the Mechanical. Let us now leave the domain of mental life in which these four kinds of cause are usually found operating together, in order that we may study in comparative isolation, and so far as may be in serial order these several types of relation. At one end of the series we have purely 'final causality,' at the other end we have 'efficient causality.' Between the two we have the biological causality, which is predominantly teleological, and the chemical causality, which is predominantly mechanical. When

we leave the neutral or mixed ground of psychology for the field of biology, what difference do we notice in the laws of the two sciences, as to their respective types of relations between facts?

In biology, all changes or sequences are explained on the basis of the desires or needs of the organism. Two phenomena  $\alpha$  and  $\beta$  are seen to follow one another in time. If the sequence fulfills the three conditions requisite for the valid inference of causality, viz., mutual presence and absence and concomitant variation—then the biologist is justified in assuming that  $\alpha$  and  $\beta$  are connected with some specific need of the organism and therein connected with one another. This medium of relation has two aspects—a *qualitative* aspect which depends upon the kind of organism in question and the particular circumstances in which it is placed, and a *quantitative* aspect which is simply the strength of the desire. Given the knowledge of these two conditions the actions or sequences of an animal may be predicted. In the higher organisms the qualitative aspect is much more pronounced than in the lower organisms. In the case given above in which I associated Hamlet with Jacques, the quantitative aspect of the sequence, regarded biologically, would be the degree to which my judgment of resemblance contributed to the preservation of my organism. Obviously this was very small indeed. If I had made any other assertion or had failed to make any, the vitality of my organism would have suffered to an extent almost inappreciable. Supposing, however, that, instead of desiring to write a composition on a play of Shakespeare's, I had desired to satisfy a particular craving for a certain kind of food—in this case the quantitative aspect of the causal relation would play a much greater part. In a healthy organism all cravings are normal, and the satisfaction of any one is a direct contribution to the vitality of the animal. In so far as these cravings are numerous and varied the same needs of the organism can be satisfied by different objects. An animal desires one kind of food, but if this is unattainable, his desire can be almost as well satisfied by another. In short, just what the particular acts of an animal will be depends upon qualitative conditions much more than on conditions of quantity. Nevertheless as we descend in the scale of organic complexity the qualitative factor

in the actions decreases in importance, until in the lowest types of animals or the highest types of vegetables we find a few well-defined desires, usually arranged in a pretty definite hierarchy, and it becomes more and more difficult to satisfy one desire with the objects of another, or to leave a desire unsatisfied without destroying the whole organism. We express this decrease of qualitative and increase of quantitative causality by saying that the lower the organism the less selective are its acts, the more is it dependent upon or determined by its environment, and the more certainly predictable are its changes. Its nature is less *intrinsic* and more *extrinsic*. Finally when in the descending scale we leave the lowest type of vegetable and enter upon the study of the actions of the crystal, we find the qualities of this semi-organism arranged not merely in a general hierarchy, in which each desire is indefinitely stronger or more important than its neighbor next below, but rather do we find a state of things in which each quality bears a definite and mathematically determinable relation to every other quality. The changes in the crystal become subject to the *à priori* laws of quantity when once we have learned empirically the specific or qualitative nature of the crystal. We may put the matter thus—why and how the crystal should be what it is is not explicable, *i. e.*, not dependent upon any objects external to it, but being what it is, all its changes may be explained or predicted.

Let us now pass from the sphere of Biological Causality to that of Chemical Causality. At first sight the new class of phenomena does not appear to differ very much from the phenomena of crystallization. We have a substance known to possess certain properties or qualities, known also to be decomposable into a definite number of certain other and simpler substances called elements, and finally known to possess definite and unchangeable relations both qualitative and quantitative to all other substances. We notice, however, that we can decompose a chemical substance into its elements and then put these elements together and get back the original substance. Now with no type of organism or of crystal is this reverse process possible. And this is the most noteworthy difference between the substances of biology and the substances of chemistry. The chem-



ical substance has apparently no intrinsic life of its own, not even a crystalline power of initiative. It has, to be sure, a very rich qualitative nature, but we can force it to run through the whole gamut of its changes simply by altering its relations to other substances. An organism, however, refuses to be put through its tricks against its will. Break a crystal or an organism and you cannot mend it. Break the chemical compound and usually nothing is easier than to mend it. Hence in Chemical Causality we first come to what appears to be a *reversible series*—the possibility of a change which is not also a growth. A chemical substance can be changed in two directions—can grow old and can grow young, *i. e.*, not grow at all, but only alter. We have, to be sure, the interesting fact that all chemical processes have strong preferences of direction in these reversible changes. It is very easy to produce water by combining hydrogen and oxygen, while it is somewhat more difficult to decompose the water into its elements. And this fact is interesting, I say, as showing that the break between the organic and the inorganic world may not be an absolute matter, but only one of degree. A chemical substance which persisted in altering in one direction only in spite of all external agencies could very properly be classed as an organism.

As we turn from the more complex substances to the less complex, we naturally find the qualities of the substance growing more and more simple and the quantitative factor coming more and more into prominence. Until the discovery of Mendeleef's Law it seemed that the process of simplification had come to a final stop with the classification of all chemical substances into various quantitative compounds of the original elements. Mendeleef's Law, however, shows that these elements are not only related to one another quantitatively, but that the several qualities which distinguish the elements from one another form a somewhat irregular, though undeniable series, analogous in type to the series of spectrum colors. The nature of this series is such as to enable us to predict the qualitative nature of an undiscovered element simply from a knowledge of its quantitative relation to Hydrogen. Thus in this last discovery we see the element of quantity all but supreme, and it is

an easy step from these quantitatively related elements of Physical Chemistry to the quantitatively related states of matter which form the subject-matter of physics proper. Ice changes to water and water to gas, and these three qualities are all produced in turn by simply changing the motion of the molecules. Motion, however, is but a function of Space and Time, and to reduce all change to a change of molecular motion is equivalent to reducing all causality to the change of spatial position by a material body. The laws that govern molecular motion are not yet known, hence physics is still to some extent dependent upon the empirical observation of qualities. But now the qualitative element is merely the *ratio cognoscendi* of the causal laws and not as in biology, the *ratio essendi*. In mechanics and kinematics we at last arrive within sight of pure quantitative causality untainted with any spark of teleology, *i. e.*, of quality, unless indeed the quanta of mass and distance be themselves called qualitative.

Mechanical change is change of position. Mechanical causality is the law which governs this change of position, and it is a simple function of the initial velocity, the mass and the distance. The velocity or measure of motion is, as we have seen, simply the limiting ratio of a particular filled space to a particular filled time, while the mass of a body, as Karl Pearson so well shows, can be expressed or measured in terms of the acceleration produced upon other bodies. The velocity of the falling apple has a definite acceleration, which is the effect and measure of the mass of the earth. Since mechanical change can be adequately expressed wholly in terms of space and time, and since time relations permit of spatial representation, we have it in our power to symbolize adequately every mechanical change by a geometrical graph, called by its discoverer a 'Hodograph.' When a body moves according to mechanical law we can regard any antecedent state of that movement as the cause of every consequent state or effect. In short, it is only in the case of the freely moving particles that we can accept with a clear conscience the Humean identification of causality with universal sequence. If we feel it necessary to ask for the third substance, or thing in virtue of which the two terms of ante-

cedence and consequence are causally united, we simply point to the empty time and space intervals separating the two terms. The very fact that the pure movement between two 'space-time' or 'Hodographic' points is not only a continuous change in the popular sense of the word continuous, but a homogeneous or truly continuous change, is enough to satisfy the demand of reason for the third thing or medium as ground or relation between two terms. Two commensurate quantities are just as truly related through the fact of continuity as are two qualities through the fact of participating in a third or generic quality.

Now not only has Professor Pearson (after Clifford) reduced Mechanics to a species of geometry, but geometry itself is reducible to a species of algebra, called analytic geometry. In virtue of this latter science we are, with respect to a fixed point chosen arbitrarily and called an origin, able to express all position in space as a complex algebraic quantity, the degree of complexity depending upon the number of axes necessary to distinguish every point from every other.

If all positions were confined to a straight line, we could determine each of them by a single algebraic quantity ( $x$ ). If, again, all our points were in a plane we should require a dual quantity for the definition of a point ( $x, y$ ). In our actual three-dimensional space we require three axes from which to measure, and consequently a point can only be algebraically defined by a three-fold quantity ( $x, y, z$ ). When we introduce in addition to the merely spatial relations the *kinematical* factor of the temporal velocity with which the particles are altering their positions, we are obliged to bring a fourth element ( $v$ ) into our quantity in order to define it as distinct from its 'spatio-temporal' or hodographic neighbors; and finally when we take into consideration the *mechanical* factor of Mass or accelerated velocity ( $w$ ), we may be said to be dealing with changes in a five-dimensional world, and consequently to require a quantity of five-fold complexity in order to express the whole state of a body with a given mass and velocity, at a given point in space and time, in such a way that its future states, *i. e.*, its future relations to another similarly determined body (*viz.*, the center

of mass of the system in which it is), may be predicted with certainty. Thus any body which being a member of a mechanical system is at any moment of time  $t_1$  represented by the five co-ordinate quantities  $(\{x_1, y_1, z_1\}, v_1, w_1)$ , signifying respectively its position in three-dimensional space, its velocity or position in time, and its acceleration or mass, all relative to a fixed point  $O$  which is both origin and center of mass—will at any subsequent moment  $t_2$  have changed to a state which can be represented by  $(\{x_2, y_2, z_2\}, v_2, w_2)$ , where  $(\{x_2, y_2, z_2\}, v_2, w_2)$  is a determinable function of  $(\{x_1, y_1, z_1\}, v_1, w_1)$ , and as before said, we can regard the body in the first state as the *cause* of the body in the second state. For brevity let us call these two complex quantities  $A_1$  and  $A_2$ . Now we know for various reasons (among others the fact of the loss of energy necessary in every system) that no change is wholly cyclic, *i. e.*, the state of a material system never repeats itself in time. With respect to  $O$ ,  $A_1$  and  $A_2$  or  $An$  and  $An + m$  must differ, and what is more important, they must differ positively or in one direction only—for if they did not the history of a system would repeat itself and we should have a cyclic change, which is impossible.  $An + m$  can never be equal to  $An$ , and consequently  $An$ ,  $An + 1$ ,  $An + 2 \dots An + m$  must be quantities which stand in an irreversible series—a series such that any member  $Ar$  must be ‘further’ from  $Ar - 2$  than from  $Ar - 1$ . This character is, however, precisely the character of our own numerical series, and we may, therefore, say that the series in question is not only an irreversible but an increasing series. But it must be remembered that all this is only true with respect to our own chosen origin  $O$ . We can always select another point in space  $O'$  as origin and center of mass, with respect to which the series  $A_1, A_2, A_3$ , could be read in the reverse direction, where, for example,  $A_2$  with respect to  $O$  could be shown to be less than  $A_1$  with respect to  $O'$ . Hence it is only on the supposition that  $O$  is a fixed point that we can show that mechanical change is irreversible or absolute, and not reversible or relative. What does this possibility of selecting another origin mean? It means simply that no given system is absolute, but only relative, and that consequently the changes in a system can only be predicted in so far as that system

is taken as absolute, *i. e.*, as either isolated from or inclusive of the rest of the universe. This is precisely the assumption upon which Science proceeds. In a small system of bodies the error due to the interference of other systems is great. As the system is enlarged the changes become more regular, and the error decreases, owing to the diminishing interference of other systems until it finally can be neglected. Could we grasp the universe as a whole, we should then have a system in which every element necessarily changed in one direction, and could consequently be expressed as an increasing quantity or series of quantities with respect to an absolute center of Mass or Origin.

We have now reviewed the various types of causality in the order of descent. Starting from the mixed stage of psychical causation, we traversed the fields of biology, chemistry and physics, gradually eliminating the qualitative or teleological element until we finally reached the perfect or limiting form of mechanical causality in which the cause became the antecedent and the effect the consequent; the sole relation between the two being the relation of a less quantity  $A_1$  to a greater quantity  $A_2$ . Pure quantitative increase is then the limit or substantial form of relation in the mechanical world or world of Facts. Let us now endeavor to find the limiting form of teleological causality, the relation between Meanings.

Returning to our point of departure, the case of mixed causality or psychical association, we may remember that the process in which the psychical state 'Jacques' called up the psychical state 'Hamlet' (which we expressed in the judgment, 'Jacques resembles Hamlet') was grounded or explicable on a dual relation between the antecedent subject and the consequent predicate. These two types of causal relation are named by psychology Association by Similarity and Association by Contiguity, the former being a case of teleological or final causality; the latter, a case of mechanical or efficient causality. In order to find out just what mechanical causality meant, we were obliged to work downward through the various conditions which governed this particular sequence, regarded on its factual or particular side, until in the course of our process all those teleological elements which permeate the factual order were one

after another eliminated. We have then now to follow the exactly opposite course; instead of gradually eliminating the biological and chemical qualities which taint the space-time world of the factual order with a teleological meaning—a normative significance—which is logically foreign to it, we must now proceed to eliminate the hypothetical and assertorial particularity which taints the non-temporal world of teleological norms with an irrational and mechanical character which detracts from its purity. Indeed this is one of the most noteworthy and remarkable characteristics of the universe—that although the ‘world of norms’ is diametrically opposed to the ‘world of facts,’ yet each of these diametrically opposed worlds is tainted and permeated with the characteristics of the other. Biology and chemistry are certainly *factual*, as distinguished from *normative*, sciences, and yet we have seen to what extent they imply the qualitative or teleological element. Just so logic and ethics are distinctively normative sciences, nevertheless they imply as we shall see all sorts of factual considerations. And it is this fact of separation without purity which makes the method of limits the only proper instrument for attaining a comprehension on the one hand of what an Idea or norm really is, and the nature of its relation to other Ideas or norms; and, on the other hand, of what a mechanical or material fact is and its relation to other facts. The Judgment ‘Hamlet resembles Jacques’ is not a purely normative judgment, that is to say, it does not adequately represent that absolute relation between two meanings which we call Truth. For in the first place there is no such person as Jacques and no such person as Hamlet. They live in a world which does not truly exist, and it is only by my assumption of this make-believe world as a real world that my judgment is true. In short my meaning would be more truly expressed if I said, “If Jacques were real he would resemble Hamlet.” This judgment is then a judgment of possibility, and as such its truth is imperfect. We call this kind of imperfect judgment by the name ‘Hypothetical,’ which means that the relation is not grounded in reality but on a hypothesis. But you will at once reply—Hamlet and Jacques are not merely hypothetical personages, mere empty possibles, a mere possible

is nothing, and obviously Jacques is not nothing but a very important being whom the world could ill dispense with. In fine, Jacques has some sort of actuality as a state of my consciousness and of many consciousnesses, of which Shakespeare's is one. As such then it is more than a hypothetical relation in which he stands to Hamlet. Taking Hamlet and Jacques as states of consciousness it is *really* and not hypothetically true that they resemble one another. But what is the ground of this relation? Is it a teleologically necessary connection, or does it just happen to be what it is? We can conceive Shakespeare to have made a Jacques who would be merry instead of melancholy, and who consequently would not have resembled Hamlet. From this consideration we derive the important conclusion that the teleological similarity of Jacques to Hamlet is itself dependent on certain unteleological brute facts in the temporal world in which Shakespeare lived. Our grounds then for making the judgment are to some extent at least purely factual, and we express this imperfection by saying that the judgment is 'assertorial.' But just as we saw above, that it was unfair to regard the judgment as merely hypothetical for the reason that Hamlet and Jacques were something more than purely possible beings, so here also we must admit that it would be unfair to call the judgment merely assertorial. Hamlet and Jacques are related not merely as facts, but also to some extent as necessary facts. Given the fact that both conceptions involve the character of melancholy, it is rationally or teleologically necessary to admit that they resemble one another. In short I must acknowledge that these semi-hypothetical facts, being what they are, bear a certain relation to each other which I, as a rational being, cannot disregard nor look upon with the indifference with which I have a perfect right to look upon pure matter of fact. A pure fact might be other than it is, but the relation between these particular facts when once they are accepted could not be conceived to be other than rational and necessary. This character of *necessity* makes the judgment in which it is present an 'apodictic' judgment. These three degrees of modality are always to be found in teleological sequences, *i. e.*, sequences whose terms are related in virtue of their common participation in

some third quality. And now that we have shown in a somewhat labored fashion that our chosen example of the mental sequence in which Jacques calls up Hamlet not only contains biological, chemical and physical causality on the mechanical side, but also hypothetical, assertorial and apodictic causality on the teleological side, it will be necessary to study these types of teleological causality in isolation in order to discover the limit approached by the teleological relation as it is gradually freed from the unteleological factors which usually accompany it with the result of obscuring its true nature.

Absolutely hypothetical judgments or judgments about purely possible entities would possess no psychical cogency, would exercise no constraint over the mind of the thinker. An example of such a judgment would be the assertion—"If there is a jaberwock, he would eat a griffin." This judgment exercises absolutely no control over the mind, for two reasons: first, because neither jaberwocks nor griffins exist; and, secondly, because there is no reason for connecting even the bare idea of jaberwock with the idea of griffin-eating. Now take an example of a judgment of the next higher degree of modality. "If there's a mermaid, she lives in the sea." This resembles the preceding judgment in so far as its subject is unreal, and again in so far as there is no rational connection between subject and predicate—no intrinsic reason for a mermaid's not living in a pond; it differs from the previous judgment, however, in so far as in the quasi-real world of fairyland it has actually been learned from experience that mermaids live in the sea and nowhere else. What is actual for a hypothetical world is hypothetical in a real world. We are actually limited by this judgment, *i. e.*, forced to recognize its cogency whenever we choose to talk about fairyland.

These two types of judgment exhaust the realm of the hypothetical, and we have now to enter on that of the actual or assertorial judgments. And just as we found two degrees of hypothetical judgment dealing respectively with unreal connections, and with real connections in an unreal world, so now we shall find two kinds of assertorial judgments—(1) non-rational or contingent relations between real facts, and (2) necessary



relations between unreal facts. The non-rational between real facts is exemplified in such judgments as "The grass is green," "The rain is falling," "The match is two inches long," "To-day is Tuesday, not Wednesday." These judgments are true, and there is no discoverable teleological ground for their truth. They differ from the hypothetical judgments in that they have absolute cogency over the mind for the moment in which their terms are perceived. They are necessary not for the understanding, but for the sensibility. (The hypothetical judgments only had cogency over the mind on the condition of the mind's voluntarily accepting the hypothetical world.)

The other type of assertorial judgment is not a judgment of fact, but a judgment about determined relations between unreal entities. For example: If a mermaid is defined as a being which if it lived would live in the sea, then the judgment that a mermaid would be able to endure salt-water would have assertorial validity, *i. e.*, cogency over the mind of the thinker as a brute fact in the real world. Or, again, whether any three things  $A$ ,  $B$  and  $C$  are real or not, it is nevertheless a fact that if  $A = B$  and if  $C = B$  then  $A = C$ , and the validity of this conclusion is absolutely independent of the existence or non-existence of  $A$ ,  $B$  and  $C$ . It has, however, assertorial validity and nothing more. The thinker would only have to recall the fact that  $A$  and  $B$  were creatures of his fancy and all sense of necessity would cease—his judgment would resolve itself into the mere recognition of his consciousness as having a certain form. He finds this character of unity in his consciousness and recognizes its existence in this particular case, just as he recognizes that the grass is green or that to-day is not yesterday. In short, the final test of the degree of modality possessed by any judgment is the amount of the force which it exerts over our actions. The fact that an unreal thing is identical with itself is equal to no more than a simple recognition of an actual relation, whose terms being unreal is itself nothing more than a fact, and as such only determines our actions in so far as they concern themselves with it.

If we now pass to the third and final type of teleological sequence we shall be able to see better the justness of this serial

arrangement of the first and second degrees of modality. We come to the world of necessity in which judgments are neither hypothetical nor assertorial but apodictic. If it be true that possibility, actuality and necessity really stand in a serial order, we ought to be able to predict the nature of apodictic validity from a consideration of hypothetical and assertorial validity. We found that hypothetical judgments could be of two kinds. We could assert a possible relation between possible facts—"a jaberwock would eat a griffin" or "people in Mars have three arms" (and these judgments, exerting absolutely no cogency, could fitly be called 'problematic' rather than hypothetical); or again, instead of asserting a possible relation between possible facts, we could assert an actual relation between possible facts, *i. e.*, "Mermaids live in the sea." The mermaids are to be sure unreal, but the relation between the concept 'mermaid' and the concept 'sea-dwelling' is real though contingent when taken merely as a relation. The hypothetical judgment or the judgment about possibilities concerns itself with relations and not facts. The assertorial judgment or the judgment about actualities concerns itself with facts apart from relations. The fact was either simple, as in the judgment of the grass being green, or complex, as when formed by the actual coexistence or intersection in one consciousness of two purely hypothetical judgments or assertions of mere relation. If the combination of two possibles makes an actual we should expect that the combination of a possible and an actual, a relation and a fact, would yield a necessary. Let us see if this really happens. A triangle is an actual fact and the relation between the sum of the angles of a triangle and two right angles is a genuine relation, *i. e.*, a relation which is, if not genuinely intelligible, yet more than a mere fact of perception. Hence the judgment, "the sum of the angles of a triangle is equal to two right angles," is a judgment which combines a relation or rule of reason with an actual thing or fact of sense experience, and as such possesses apodictic validity. Now the question arises as to whether there are degrees of necessity. Would there be any meaning in saying that one apodictic judgment was more necessary than another? We have said that the degree of

validity of any judgment was measured by the degree of cogency which it exerted over the mind of the thinker. Hence if we find that several apodictic judgments differ in their cogency, we can admit that there are degrees of necessity. Let us examine the following three judgments: (1) A straight line is the shortest distance between two points; (2)  $7 + 5 = 12$ ; (3) Every event is identical with itself. All these judgments are apodictic, but they possess different degrees of importance. We cannot, indeed, deny the axioms of geometry, but can we not to a large extent neglect them? In so far as our experience is spatial it is dependent upon the laws of space; but a large part of our experience is not spatial and is to that extent independent of the axiom of the straight line. It only possesses cogency over part of the mind. Now the second judgment, like all judgments about particular numbers, involves in itself the whole number series; and as number applies to inner experience as well as to outer, we have in the numerical judgment a greater because a more extensive cogency than in the judgment about the straight line. Finally in the third judgment, the axiom of identity,  $A = A$ , we have a cogency and consequently a validity more nearly universal than that of either spatial or numerical judgments. For if there is a large part of experience that is independent of the laws of space and a smaller surplus of experience which is independent of number, there would at first glance seem to be no experience at all that is not dependent upon the law of identity. We must then admit that there are degrees of necessity, that apodictic validity may vary in its extent. Hence it will not be enough to say that any apodictic judgment can be regarded as the limit of the series of teleological sequences. To find the limit we must find the judgment which is cogent throughout all experience and not merely throughout particular departments. Perhaps the axiom of identity fulfills this demand for an absolute or universal necessity. To prove this we have only to show that there is no case in which a thing changes its identity. But does not the very statement of the task bring out the impossibility of its attainment? Wherever there is change the law of identity is neglected.  $A$  does not remain identical in so far as it gives rise to  $B$ . One

thing becomes another thing. We need not take the fact of change as a violation of the law of identity for there must always remain a constant or identical element throughout every change. We have, however, the right to regard change as an example of the limitation, if not the contradiction, of the axiom that  $A = A$ . Change may imply identity; but identity is not the whole essence of change, and whenever we attend to the changing forms and states of a thing rather than to the thing itself, we are in just so far attending to a phase of experience over which the judgment of identity is not cogent.

Professor Royce in his *Religious Aspect of Philosophy* gives an example of a judgment which would seem to possess the sort of universal validity for which we have just sought in vain in the judgment of identity. The judgment that 'every doubt implies a reference to an objective truth' is absolutely universal throughout the realm of reason. To deny or to doubt the truth of this judgment is to affirm it, because any rational doubt of the truth of a proposition is based upon the belief that it does not conform to the established nature of things nor to objective Truth, and the existence of this objective Truth is all that the judgment asserted. Before submitting this proposition of Professor Royce's to a final test of the universality of its cogency, we should recall the manner in which the limitations of the previous judgments were manifested. When confronted with the axioms of geometry we could say: There is a portion of our experience over which these laws have no sway. Again in the case of the axioms of arithmetic we could point to the concrete differences in the qualities of experience as being outside the laws of number. Finally in the third judgment we could instance the phenomena of time and change as examples of experiences, the whole nature of which could not be expressed by the principle of identity. We have then, if we would show Professor Royce's refutation of scepticism to be limited in its degree of validity, simply to follow the same path as before, *i. e.*, to find some experience over which the law in question does not hold. The topic of the judgment is itself an indication of its limitation. What are truth and error? They are objects of Reason—the law which binds them together is a law

of Reason. Is there any portion of experience that is not purely rational? Feeling and acting may be reasonable but are they not something more? Every sensation and every act of will contains an element or an aspect which is not reducible to the laws which govern our thought. And in so far as we have experience which is not merely rational, just in so far is our experience independent of Professor Royce's proposition about the necessary implication of a rational doubt. For a non-rational being and for any being in so far as he is non-rational, the judgment in question possesses no cogency nor validity.<sup>1</sup>

The question naturally arises here as to whether there *is* any single judgment the consequences of which we cannot escape by changing or extending our point of view. We may remember that when we arrived in the series of mechanical sequences at what seemed to be a purely quantitative and irreversible change, we found that it was possible by changing our origin or center of mass to view the sequence in reverse order. The only ways in which it was possible to transcend this reversibility or relativity of mechanical processes was by extending the material system until it embraced the entire universe for which there is only one center of mass, or by selecting a system (*e. g.*, an organism) which possessed a *unique* center of mass which could not be exchanged for any other. The case is precisely the same in the present series of teleological sequences. All rational sequences, *i. e.*, all apodictic judgments, seem to be permeated with relativity—there is always some other point of view, as it were, some other center of mass, with respect to which our sequence loses its validity. I can think of only one type of judgment from the consequences of which it is impossible to escape. In the moral judgment or judgment of duty there seems to me no relativity whatever. The judgment that  $A = A$  does not forbid us to neglect it in so far as experience is temporal or

<sup>1</sup>If this reasoning be valid, there follows what seems to me to be a rather important result, viz., this: In so far as the arguments used by Professor Royce and Mr. Bradley for the demonstration of the Absolute as a being in whom evil and pain are transcended—depend upon the conclusion that error is transcended—they are baseless. That is to say, there is no inconsistency in regarding God as necessarily rational but by no means either good or happy. The divine transcendence of evil and pain does not follow from the mere transcendence of error.

subject to change. The judgment that every rational doubt implies an absolute truth does not prevent us from neglecting altogether the world of the rational in favor of the world of sense. But the moral judgment that something ought to be not only forbids us to deny it, but it also forbids us to neglect it for anything else. When we stand in the presence of a duty, the moral law does not simply assert its validity or cogency for a single department of experience, it asserts its own apodictic truth and as it were in the same breath it claims our attention and our absolute and peremptory obedience to it. This is the peculiarity of the 'Categorical Imperative,' that in addition to the apodictic validity which it possesses in common with all necessary judgments, it puts in an extra claim to be recognized as more important than anything else. It forbids us to deny its truth, *and it also forbids us to neglect it*. Its cogency is not merely negative but positive, it commands us to vindicate our recognition of its absoluteness by determining our actions in accordance with its maxims. It appeals to us not in so far as we are subject to the laws of space and number, not in so far as we are subject to the Laws of Identity and contradiction, not even in so far as we are rational or sensuous, or social or virtuous. It condescends not at all to justify itself by pointing to any one mode or aspect of our nature. It bids us unconditionally to recognize it and to follow it with all the strength that we have. These attributes of the moral law may be very edifying or they may be the reverse; our interest in the Categorical Imperative is not in the least emotional, we simply cite it as a very peculiar phenomenon and a very significant one for students of epistemology and logic. Its significance is due to the fact that it fulfills the ideal of absolute validity or truth. It is the limit of the series of judgments in which each possessed a greater degree of truth than the one before.

From the problematic judgment which exerted no cogency whatever, and the hypothetical judgment which was valid only if we voluntarily admitted the condition upon which it was based, on through the assertorial judgments whose validity was limited to the moment of perception, up to the apodictic judgment which was absolute through some one department of ex-

perience and finally to the judgment of Practical Reason, which possessed an absolute and unconditional cogency over the entire self—through all this process we have noted the genuinely serial order. Each term of the series, each type of judgment possesses all that the previous terms possessed. And at the end of the process we reach the limiting term, the type of judgment which declares itself as absolute. The moral judgment alone, as the limit of the series, contains in itself the perfect validity to which the speculative judgments could only approximate.

We hear a great deal at present about the judgment of worth as superior to the judgment of truth. Practical Reason is dogmatically asserted to be more real than speculative Reason, and the return to the epistemological dualism of Kant is advocated as 'the only refuge for Theology in its flight from the persecutions of science.' The object of this study in the method of limits is simply an attempt at some sort of justification of Kant's hypothesis of the supremacy of Practical Reason. If one is content with simply asserting that moral truths are superior to the truth of reason, he is helpless against anybody who makes the opposite assertion. If Speculative and Practical Reason are wholly incommensurate the one with the other, there is no criterion for deciding as to the supremacy of either. To assert one as prior to the other is a senseless and arbitrary act. But if we can show that the judgments of the one faculty form a continuous series with the judgments of the other, we vindicate our right to a division into higher and lower. In the light of our analysis it is no longer a paradox to assert the existence of duty as truer than truth. For as we have seen the degree of truth possessed by a judgment is measured by the degree of cogency which it exerts over the mind. The judgment of duty is absolute or unconditional and as such has more cogency than any other possible judgment, hence it possesses a maximum of validity or truth.

Now that we have found the limit of the series of teleological sequences it is necessary to analyze it in order that by observing its inner nature we may be able to see if it is at all commensurate with the limiting type of mechanical sequence. To simplify this analysis I must ask you to assume, without proof,

that the moral law only, or at all events primarily, appears in its own form under certain definite conditions. We use the word 'ought' in a variety of cases in which moral obligation is not felt at all, or if felt, it is only indirectly and by analogy. The three conditions under which the moral law makes its appeal are :

1. The recognition of a good.
2. The immediate possibility of realizing the good.
3. The fact that I and not someone else am the agent for its realization.

We make use of the word ought when any one of these conditions is present ; but we only use it in its true and proper, *i. e.*, in its moral sense when all three conditions are fulfilled.

Omit the first condition, and we have the class of what Kant called Hypothetical Imperatives. "I ought to come in out of the rain"—there is no moral obligation contained in this judgment unless I make the further judgment that it is morally good to keep dry.

Again, omit the second condition, *i. e.*, the possibility of action, and we get that class of judgments which express regret or remorse or distress without obligation to act. "My past actions ought to be different." "I ought not to be in this condition." In these judgments I see the impossibility of realizing the good by any action, and with this recognition the obligatory cogency of the judgment of duty is destroyed. And, thirdly, when I say you ought or he ought to do so and so, I fail to perceive the peculiar strain or compelling force of the Moral Imperative. It is only when I realize that there is, first a *good*, which is, second, immediately *possible*, third, for *me to realize*—it is only then, I say, that the judgment of Practical Reason sets up its claim for absolute and peremptory obedience. And I think that if one takes the trouble to analyze his feelings when he fancies that moral obligation is present independently of the presence of all these three conditions, he will find that either on the one hand the apparent obligation will pass away, or on the other hand, he will insist on projecting himself into a world in which the duty in question is possible and possible for



him alone.<sup>1</sup> Granting this we may state the judgment of duty as a judgment in which a possible good is connected with its realization in the world of fact—by means of the *ego*. The cause or antecedent term of the judgment-sequence is an idea; the effect or consequent term is the idea realized or actualized.

We must here note a further peculiarity of the moral judgment. It is self-transcendent in the sense that it refers to something beyond itself, *i. e.*, to its realization in the world of fact. The judgment, "I ought to do this," is only fulfilled or completed in the process of realizing the judgment in action. To recognize or think a duty as binding is only the most rational of judgments when it is accompanied by the specific realization of the good. The moral judgment is truer than the speculative judgment, but the acting out of the moral judgment is the only way to complete or exemplify this truth. Hence this final type of teleological sequence is the change from an idea of a good deed to a good deed. It is the change from the possible to the actual. *A* is the subject of the judgment, *A'* is the predicate. *A* is the idea of the good, *A'* is the realized fact. *A* is the antecedent or causal term of the sequence, *A'* is the consequent term or the effect. *A* as a possible is the cause of *A'* as an actual. To find the essence of the sequence we have simply to find the difference between the possible and the actual, the idea of the fact and the fact itself. The effect only differs from the cause in possessing existence. What then is the predicate of existence? As Kant expressed it, How does the actual dollar which will pay a debt differ from the idea of the dollar—which will not pay a debt? That there is a difference between a fact and the idea of a fact we cannot doubt. A man is thoroughly good when he turns his ideas of good into facts; a man is thoroughly bad when he possesses the idea of the good, the knowledge of his duties, but refuses to realize that knowledge. The antithesis between the idea and the fact is of the same kind and of the same degree as the antithesis between conscious sin and

<sup>1</sup> This is what happens in the case of remorse: we either recognize the uselessness of regretting what is necessarily the case and the remorse vanishes, or we persist in projecting ourself into the past circumstance in which the regretted action was not a necessary but a freely chosen possibility.

conscious virtue. The existential predicate is something real, but it is not a quality. We cannot point out any quality which the actual dollar possesses that is not also possessed by the possible dollar. How do we detect the presence of this predicate of existence if it is not visible as a quality? We detect it by its effects, it manifests its reality and its nature in its functions in its relations to other things. The real dollar is known to be different from the ideal dollar because the two stand in different relations to a debt. The one produces certain effects which the other does not, and by the principle of sufficient reason we are bound to explain the visible difference in the effects by positing a genuinely real though invisible and non-qualitative difference in the respective causes. There have been suggested various criteria for distinguishing the external world from the sensations about it.

There is Humes' criterion, based upon the difference of vividness between the real and ideal. This criterion is imperfect in so far as it affords no basis for condemning as unreal or merely subjective the remarkably vivid hallucinations of an insane man. We are driven to adopt a second criterion, the opinions of our fellow-men. What our fellows pronounce actual, that is really actual; and what they say is mere idea or possibility is really so, no matter how vivid it may seem to us. There is to-day an increasing body of thinkers who stop here and accept the verdict of the 'social consciousness' as the final and all-sufficient criterion for distinguishing the real from the ideal. What constitutes lunacy?—simply having an experience which your neighbors do not have. If there were ninety-nine men who possessed in common a certain hallucination, and one man who did not possess it, then we are told that that one man would be insane so far as that community was concerned. It is doubtful if any one could ever seriously believe in this theory, if its necessary implications were clearly seen, and yet like all forms of Berkeley's doctrine of the identity of *esse* and *percipi*, it is a pleasant paradox and one that is easy to defend.

For in the first place, this appeal to the verdict of the Social Consciousness as the ultimate test of what is real, involves an endless and vicious regress. "A thing is real because my

neighbors say it is real." Why do my neighbors say it is real; what is the rational ground for their assertion? According to this theory their only ground must lie in the fact that their neighbors assert the experience as real, the opinions of the latter being in turn justified only by the beliefs of *their* neighbors, and so on until finally we should exhaust the number of men and arrive at the individual who acted as bell-wether to the human flock. Whatever he said was real, that also everyone else would pronounce real. But what would be *his* ground for distinguishing between the real and the ideal? Not the rational (?) ground of 'imitation' because in this first case there would be no one to imitate. We must either admit that in the last analysis the distinction of subjective and objective rests upon pure caprice, or else we must seek a criterion beyond the 'Social Consciousness.' Other men happen not to dream your dreams, but that is not the reason that your dreams lack an existential predicate!<sup>1</sup>

There is, however, a third criterion for distinguishing the ideal from the real, viz., the criterion of permanency. When the patient suffering from an illusion refuses to believe his neighbors, he is when possible taken to the apparent cause of his illusion and allowed to test it with other senses than the one affected, upon which the illusion usually vanishes. The part of it which is unaltered by changes in time and in sense remains for him as real. Hence, in general, we may take the common sense view that the *unalterability* of a thing is the final test of its reality.

Now what is the meaning of this word 'Unalterability'? It means what cannot be altered. A man tries to alter an experience and can't succeed. Why? Because the thing resists him; he tries to change it and fails—then he feels safe in pronouncing it real or objective. A baby feels an uneasy sensation

<sup>1</sup> There is nothing mysterious in the seeming plausibility of the Social Consciousness theory, for this plausibility is due to a very simple *hysteron proteron*. A real thing usually shows its reality by being an object for a plurality of subjects, in much the same way and for much the same reason that to a real body in space a number of lines can be drawn. Stand this truth on its head and we get the idealistic doctrine that *because* a body has relations it is real. Relations are at most the *ratio cognoscendi*, but never the *ratio essendi* of existence.

in its finger—finds he can stop it. He also sees the moon and wants it and can't get it. What is the obvious and legitimate induction for the baby to make? Finger sensations, thoughts and gurglings are one kind of thing; moons and cribs and other people's voices are a different sort of thing. The first class belong to me, they are subjective the other class do not belong to me, they are objective. Why even such a very subjective thing as a pain will if it resist long enough be objectified. The first day of a hard toothache the sufferer speaks of '*my* toothache'; the third day he speaks of 'that infernal pain,' as though it did not belong to him at all.

A thing which resists our will is actual, a thing which does not is possible. We identify that which resists our will with the realm of external experience, because a purely internal thing, like a train of thought, is wholly identified with and amenable to our wishes. The feeling of resistance or of *continuity with something not ourself* is at once the ground of our belief in objective experience as being caused and in subjective experience as being free. There is no sensation so purely possible as not to contain a slight degree of stubbornness or resistance, nor is there, on the other hand, any sensation so intensely actual as not to be in some degree changeable by our will. The property of resistance is then a relative or quantitative affair. It is recognized as akin to our own effort-feeling because it varies continuously and directly with our effort. As in our feeling of effort we get the intuition of pure quantity freed even from the semi-qualitative attribute of extension, so in our intuition of the objective correlate of effort we are likewise compelled to think of a purely quantitative entity. The moral change from the purely possible or practically unresisting *idea* of the good to the actual or practically unalterable good deed is not only the most thoroughly rational and teleological of sequences, but it is also a change from one quantity to a quantity infinitely greater. Existence is manifested in resistance and resistance is a matter of quantity, hence existence is also a matter of quantity. The change from a possible dollar or a possible good deed to an actual dollar or an actual good deed, is a change which involves the addition of an existential predicate, *i. e.*, the addition of an

infinite quantity. We cannot change the possible dollar into the actual dollar, but we can change the possible good into the actual good. But you may answer, Surely the difference between the idea of the good and the fact of good is too fundamental to be explained by a mere increase of quantity. To this I answer by offering an analogy. If we decrease a surface infinitely we reach a line. Now the difference between the line and the plane is of the same fundamental nature as the difference between fact and idea, and yet the conception of an infinite quantitative increase is all that is required to explain the one case. May it not then explain the other also?

The limit approached by the first or mechanical series was the change from a less to a greater quantity, the amount of change being finite. The limit approached by the second series, *i. e.*, the series of teleological judgments is also a change from a less quantity to a greater, though in a perfect moral act the change would be infinite. *The two attributes of the soul are in their essential or limiting forms homogeneous with each other and imply a common substance.*

But the most cursory examination of the act of duty reveals another and equally important characteristic, *viz.*, its perfectly material physical causality. Our actions are quantitative or mechanical in so far as they follow from the intensity of desire, rather than from the quality of the desire. The moral law is essentially and peculiarly material or physical, in that it bids us seek the greatest possible quantum of Good, the maximum of desirability quite regardless of the quality of the object. This is why the good manifests itself in such a variety of objects, though never completely or adequately in any one. Pleasure *qua* pleasant or Beauty *qua* beautiful can never be moral ends. Only what is most desirable and *because it is most* desirable can be recognized as an object of duty.

The moral action then has as much to do with the sensuous and physical as with the rational and teleological, and the realization of an act of virtue manifests its quantitative and spatio-temporal nature in the feeling of effort, to the same extent and at the same time that it exhibits its non-temporal and universal or ideal validity. This double aspect of moral phe-

nomena is evidenced in the use of the two terms 'right' and 'good.' Every moral act is right or rational and at the same time 'good' or 'desirable.' The ethical rationalists or rigorists attempt to restrict ethics to a study of the law of right, the Categorical Imperative. The opposite school of ethical writers—who are in general Hedonists—regard ethics simply as a study of the *summum bonum*. The former claim that the Good or *end* of conduct is deducible from and secondary to the Right, or *law* of conduct. The latter claim that the Right or categorical imperative is deducible from and secondary to the *summum bonum*. The end must justify means is their watchword, while the watchword of the Rationalists is "Let Justice prevail though the Heavens fall." The means must justify the end. The Hedonists forget that the limiting or perfect type of the Desirable must somehow imply the existence of a perfectly right or rational means by which it is to be attained, the Highest Good must be compatible with Right action. The Rigorists on their side forget that the limiting or perfect form of Right must be something more than a merely rational or formal law, and must lead towards the maximum Desirable. To find a single principle of moral action which should in its own simple nature express and harmonize these two opposite *motifs* of our moral nature, upon which the two methods of ethics are based, would constitute the solution of the moral antinomy, the 'masterknot.'

For our purposes it is sufficient to recognize the significance of the moral act as the unique embodiment of a perfectly pure or limiting type of efficient causality, and a perfectly pure or limiting type of teleological causality. When Kant pointed out the Practical Reason as the only clue to the nature of Reality, he discovered a veritable mine of metaphysical wealth,<sup>1</sup> none the less rich from the fact of its all but universal neglect at the hands of his disciples.

From the nature of the moral act as containing in its own

<sup>1</sup> Not least among the many curious and beautiful phenomena of the moral consciousness is the fact which we have foreborne to mention that although the moral act is the only example of perfect efficient causality and of perfect final causality, it is also the only act whose causality is genuinely indeterminate or free. The extent to which a man realizes any given ideal of good is a wholly independent variable governed by nothing in the past or present except itself.

simple and irreducible nature, both efficient and final causality, we can and must infer the nature of the moral agent as a being or substance, which is at once as particular and as material as the *atom* of the physicist, and as universal and intelligible as the *concept* of the logician.

Such then is the nature of the soul. We may call it a 'substance' because it fulfills the three conditions mentioned above as the requisites for a valid concept of substance. It differs from a mere Ding an Sich in that it is known to exist under a form of its own, viz., the moral form; and it stands to its attributes in that peculiar double relation (due to its nature as *limiting type or essence*) whereby it is at once the common genus of both and a distinct species of each. That the soul exists as a substance distinct from matter and mind, yet commensurate with each therein, furnishing the only possible explanation of their interaction, we have seen. We have seen, too, that it is a simple and not a composite substance, for the act of duty in which the soul manifests itself under its own form is a simple act, and not a mere complex of elements. May we ask, in conclusion, as to the destiny of the soul? Does the soul enjoy a genuine immortality, *i. e.*, an individual continuance of consciousness under conditions to some extent analogous to those of time and space? The outlook is extremely sobering and dark. The evidence, when candidly scrutinized, seems to reduce itself to a few ghost stories and a mighty yearning. What indeed does the universe want of an individual's consciousness after death? The world of the physicist certainly does not need it. The dead body in its mere decomposition fulfills satisfactorily all the laws of conservation of matter, motion and energy. Not only is there no need for a 'loose consciousness,' but if there were anything left beside the dead body the symmetry and unity of the physicist's world would seem to be threatened. Nor is the case different with the world as viewed by the transcendental philosopher. An individual consciousness is as far from harmonizing with the Platonic Ideas or pure forms of the panlogist as with the atoms and energy of the materialist. For the individual consciousness, just so long and just in so far as it is individual is permeated with a particularity and contingency

which absolutely defies and sets at naught the attempt to define it in terms of universals. In short, consciousness is in very much the same position as the classical bat, there is no place for it in the empire of the earth, neither in the empire of the air, and condemned to flit helplessly between the two realms, it will ever be as a thorn in the side of the consistent empiricist and materialist and the consistent rationalist and idealist. For what indeed is the individual consciousness but the hybrid product of the union of 'matter' and 'meaning,' of 'facts' and 'values,' of brain cells and 'pure forms'—a thing incommensurate with and wholly different in its nature and processes from the two orders of being with which it deals? Truly an 'epiphenomenon' with respect to either of the two factors from whose union it arises, what right can it possibly have to continue to exist when that union is annulled? And, indeed, modern philosophy when true to itself must answer the question as to a genuine immortality in the negative. We have, it is true, several substitutes for genuine immortality. The transcendentalist doctrine that the *ego* is a timeless fact, and hence not mortal, but possessing non-mortality of the same type as that possessed by the Pythagorean theorem or any other eternal verity. Again, we have the other type of panlogistic 'immortality'—that advocated by Dr. Paul Carus, according to whom, as I understand it, we may hold man immortal in so far as the form or meaning of his life is preserved in the memory of his successors and is influential in moulding history. And, finally, we have the materialist's 'immortality,' which assures us that our real self is the matter of our body and will continue forever.

It seems to me that if we regard the real man as consisting in the matter of his body or the sensational modifications of that matter, or in the timelessly valid ideas with which his intellect deals, or finally and most of all in the mere Hegelistic unity of these two sides of his nature, that we have no right to hope for genuine immortality. But in truth the real man, the *man himself*, is neither matter nor idea, nor both together; the real man is the 'something I know not (thoroughly) what,' which makes possible the extraordinary phenomenon of consciousness, *i. e.*, of the union of the two apparently



incommensurate orders of existence. Nature makes no leaps—there is no action at a distance; and it is simply unbelievable and unthinkable that a bundle of Platonic Ideas and a bundle of brain cells could on their own initiative and without any third thing or medium commune together in the violation of all laws of logic and of physics. And yet they do so communicate. All consciousness bears witness to the fact, and the moral consciousness testifies to the additional fact, that these two phases of being have their true reality, their essential nature in something which is more real than either, viz., the substantial soul. And when consciousness goes out and the universal truths and ideals which swayed the life of the living man return again to their own place, leaving the brain cells again free to follow the laws of inorganic matter—when that event takes place, something will remain, something more real and more precious than what has gone, something that being the condition of consciousness, and having under certain circumstances manifested itself in consciousness, may, under new circumstances, once more feel and think and act.