

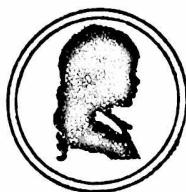
# ESSAYS IN SCIENCE AND PHILOSOPHY



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NEW YORK

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15 EAST 40TH, STREET, NEW YORK, N.Y.

*Printed in Great Britain by  
William Brendon & Son, Ltd.  
The Mayflower Press (late of Plymouth)  
at Bushey Mill Lane  
Watford, Herts*

## PART II

## PHILOSOPHY

★ 0.5.1941

*Immortality*<sup>1</sup>

## PREFACE

IN THIS LECTURE the general concept of Immortality will be stressed, and the reference to mankind will be a deduction from wider considerations. It will be presupposed that all entities or factors in the universe are essentially relevant to each other's existence. A complete account lies beyond our conscious experience. In what follows, this doctrine of essential relevance is applied to the interpretation of those fundamental beliefs concerned with the notion of immortality.

## I

There is finitude—unless this were true, infinity would have no meaning. The contrast of finitude and infinity arises from the fundamental metaphysical truth that every entity involves an indefinite array of perspectives, each perspective expressing a finite characteristic of that entity. But any one finite perspective does not enable an entity to shake off its essential connection with totality. The infinite background always remains as the unanalysed reason why that finite perspective of that entity has the special character that it does have. Any analysis of the limited perspective always includes some additional factors of the background. The entity is then experienced in a wider finite perspective, still presupposing the inevitable background which is the universe in its relation to that entity.

For example, consider this lecture hall. We each have an immediate finite experience of it. In order to understand this hall, thus experienced, we widen the analysis of its obvious relations. The hall is part of a building; the building is in Cambridge, Mass.; Cambridge, Mass., is on the surface of the Earth; the Earth is a planet in the solar system; the solar system belongs to a nebula; this nebula belongs to a spatially related system of nebulae; these nebulae exhibit a system with a finite temporal existence; they have arisen from antecedent circumstances which we are unable to specify, and will transform into other forms of existence beyond our imagination. Also

<sup>1</sup> *Ed. Note:* This second part of Professor Whitehead's "Summary" was originally delivered on April 22, 1941, as the Ingersoll Lecture at the Harvard Divinity School.

we have no reason to believe that our present knowledge of these nebulae represents the facts which are immediately relevant to their own forms of activity. Indeed we have every reason to doubt such a supposition. For the history of human thought in the past is a pitiful tale of a self-satisfaction with a supposed adequacy of knowledge in respect to factors of human existence. We now know that in the past such self-satisfaction was a delusion. Accordingly, when we survey ourselves and our colleagues we have every reason to doubt the adequacy of our knowledge in any particular. Knowledge is a process of exploration. It has some relevance of truth. Also the self-satisfaction has some justification. In a sense, this room has solid walls, resting upon a stationary foundation. Our ancestors thought that this was the whole truth. We know that it embodies a truth important for lawyers and for the University Corporation which manages the property. But it is not a truth relevant beyond such finite restrictions.

To-day, we are discussing the immortality of human beings who make use of this hall. For the purposes of this discussion the limited perspectives of legal systems and of University Corporations are irrelevant.

## II

"The Immortality of Man"—What can this phrase mean? Consider the term "Immortality," and endeavour to understand it by reference to its antithesis "Mortality." The two words refer to two aspects of the Universe, aspects which are presupposed in every experience which we enjoy. I will term these aspects "The Two Worlds." They require each other, and together constitute the concrete Universe. Either World considered by itself is an abstraction. For this reason, any adequate description of one World includes characterizations derived from the other, in order to exhibit the concrete Universe in its relation to either of its two aspects. These Worlds are the major examples of perspectives of the Universe. The word "evaluation" expresses the elucidation of one of the abstractions by reference to the other.

## III

The World which emphasizes the multiplicity of mortal things is the World of Activity. It is the World of Origination: It is the Creative World. It creates the Present by transforming the Past, and by anticipating the Future. When we emphasize sheer Active Creation, the emphasis is upon the Present—namely, upon "Creation Now," where the reference to transition has been omitted.

And yet Activity loses its meaning when it is reduced to "mere creation now": the absence of Value destroys any possibility of reason. "Creation

"Now" is a matter-of-fact which is one aspect of the Universe—namely, the fact of immediate origination. The notions of Past and Future are then ghosts within the fact of the Present.

IV

The World which emphasizes Persistence is the World of Value. Value is in its nature timeless and immortal. Its essence is not rooted in any passing circumstance. The immediacy of some mortal circumstance is only valuable because it shares in the immortality of some value. The value inherent in the Universe has an essential independence of any moment of time; and yet it loses its meaning apart from its necessary reference to the World of passing fact. Value refers to Fact, and Fact refers to Value. [This statement is a direct contradiction to Plato, and to the theological tradition derived from him.]

But no heroic deed, and no unworthy act, depends for its heroism, or disgust, upon the exact second of time at which it occurs, unless such change of time places it in a different sequence of values. The value-judgment points beyond the immediacy of historic fact.

The description of either of the two Worlds involves stages which include characteristics borrowed from the other World. The reason is that these Worlds are abstractions from the Universe; and every abstraction involves reference to the totality of existence. There is no self-contained abstraction.

For this reason Value cannot be considered apart from the Activity which is the primary character of the other World. Value is the general name for the infinity of Values, partly concordant and partly discordant. The essence of these values is their capacity for realization in the World of Action. Such realization involves the exclusion of discordant values. Thus the World of Values must be conceived as active with the adjustment of the potentialities for realization. This activity of internal adjustment is expressed by our moral and aesthetic judgments. Such judgments involve the ultimate notions of "better" and "worse." This internal activity of the World of Value will be termed "Valuation," for the purpose of this discussion. This character of Valuation is one meaning of the term Judgment. Judgment is a process of unification. It involves the necessary relevance of values to each other.

Value is also relevant to the process of realization in the World of Activity. Thus there is a further intrusion of judgment which is here called Evaluation. This term will be used to mean the analysis of particular facts in the World of Activity to determine the values realized and the values excluded. There is no escape from the totality of the Universe, and exclusion is an activity comparable to inclusion. Every fact in the World of Activity

has a positive relevance to the whole range of the World of Value. Evaluation refers equally to omissions and admissions.

Evaluation involves a process of modification: the World of Activity is modified by the World of Value. It receives pleasure or disgust from the Evaluations. It receives acceptance or rejection: It receives its perspective of the past, and it receives its purpose for the future. This interconnection of the two Worlds is Evaluation, and it is an activity of modification.

But Evaluation always presupposes abstraction from the sheer immediacy of fact: It involves reference to Valuation.

If you are enjoying a meal, and are conscious of pleasure derived from apple-tart, it is the sort of taste that you enjoy. Of course the tart has to come at the right time. But it is not the moment of clock-time which gives importance; it is the sequence of types of value—for instance, the antecedent nature of the meal, and your initial hunger. Thus you can only express what the meal means to you, in terms of a sequence of timeless valuations.

In this way the process of evaluation exhibits an immortal world of co-ordinated value. Thus the two sides of the Universe are the World of Origination and the World of Value. And the Value is timeless, and yet by its transformation into Evaluation it assumes the function of a modification of events in time. Either World can only be explained by reference to the other World; but this reference does not depend upon words, or other explicit forms of indication. This statement is a summary of the endeavour throughout this chapter to avoid the feeble Platonic doctrine of "imitation" and the feeble modern pragmatic dismissal of "immortality."

V

To sum up this discussion: Origination is creation, whereas Value issues into modification of creative action (Creation aims at Value), whereas Value is saved from the futility of abstraction by its impact upon the process of Creation. But in this fusion, Value preserves its Immortality. In what sense does creative action derive immortality from Value? This is the topic of our lecture.

The notion of Effectiveness cannot be divorced from the understanding of the World of Value. The notion of a purely abstract self-enjoyment of values apart from any reference to effectiveness-in action was the fundamental error prevalent in Greek philosophy, an error which was inherited by the hermits of the first Christian centuries, and which is not unknown in the modern world of learning.

The activity of conceptual valuation is in its essence a persuasive force in the development of the Universe. It becomes evil when it aims at an impossible abstraction from the communal activities of action. The two worlds of Value and of Action are bound together in the life of the Universe,

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so that the immortal factor of Value enters into the active creation of temporal fact.

Evaluation functions actively as incitement and aversion. It is Persuasion, where persuasion includes "incitement towards" and "deterrence from," a manifold of possibility.

Thus the World of Activity is grounded upon the multiplicity of finite Acts, and the World of Value is grounded upon the unity of active co-ordination of the various possibilities of Value. The essential junction of the two Worlds infuses the unity of the co-ordinated values into the multiplicity of the finite acts. The meaning of the acts is found in the values actualized, and the meaning of the valuation is found in the facts which are realizations of their share of value.

Thus each World is futile except in its function of embodying the other.

## VI

This fusion involves the fact that either World can only be described in terms of factors which are common to both of them. Such factors have a dual aspect, and each World emphasizes one of the two aspects.

These factors are the famous "Ideas," which it is the glory of Greek thought to have explicitly discovered, and the tragedy of Greek thought to have misconceived in respect to their status in the Universe.

The misconception which has haunted philosophic literature throughout the centuries is the notion of "independent existence." There is no such mode of existence; every entity is only to be understood in terms of the way in which it is interwoven with the rest of the Universe. Unfortunately this fundamental philosophic doctrine has not been applied either to the concept of "God," nor (in the Greek tradition) to the concept of "Ideas." An "Idea" is the entity answering questions which enquire "How?" Such a question seeks the "sort" of occurrence. For example, "How did it happen that the motor car stopped?"; the answer is the occurrence of a "redness of lighting" amid suitable surroundings. Thus the special entry of the Idea "Redness" into the world of fact elucidates the special transition of fact which is the stoppage of the car.

A different functioning of "Redness" is the enjoyment of a glorious sunset. In this example, the realized value is evident. A third case is the intention of an artist to paint a sunset. This is an intention towards realization, which is the basic character of the World of Value. But this intention is itself a realization within the Universe.

Thus each "idea" has two sides; namely, it is a shape of value and a shape of fact. When we enjoy "realized value" we are experiencing the essential junction of the two worlds. But when we emphasize mere fact, or mere possibility we are making an abstraction in thought. When we

enjoy fact as the realization of specific value, or possibility as an impulse towards realization, we are then stressing the ultimate character of the Universe. This ultimate character has two sides—one side is the mortal world of transitory fact acquiring the immortality of realized value; and the other side is the timeless world of mere possibility acquiring temporal realization. The bridge between the two is the "Idea" with its two sides.

## VII

Thus the topic of "The Immortality of Man" is seen to be a side issue in the wider topic, which is "The Immortality of Realized Value"; namely, the temporality of mere fact acquiring the immortality of value.

Our first question must be, Can we find any general character of the World of Fact which expresses its adjustment for the embodiment of Value? The answer to this question is the tendency of the transitory occasions of fact to unite themselves into sequences of Personal Identity. Each such personal sequence involves the capacity of its members to sustain identity of Value. In this way, Value-experience introduces into the transitory World of Fact an imitation of its own essential immortality. There is nothing novel in this suggestion. It is as old as Plato. The systematic thought of ancient writers is now nearly worthless; but their detached insights are priceless. This statement can be referred to as expressing the habits of Plato's thought.

The survival of personal identity within the immediacy of a present occasion is a most remarkable character of the World of Fact. It is a partial negation of its transitory character. It is the introduction of stability by the influence of value. Another aspect of such stability is to be seen in the Scientific Laws of Nature. It is the modern fashion to deny any evidence for the stability of natural law, and at the same time implicitly to take such stability for granted. The outstanding example of such stability is Personal Identity.

Let us consider more closely the character of Personal Identity. A whole sequence of actual occasions, each with its own present immediacy, is such that each occasion embodies in its own being the antecedent members of that sequence with an emphatic experience of the self-identity of the past in the immediacy of the present. This is the realization of personal identity. This varies with the temporal span. For short periods it is so overwhelming that we hardly recognize it. For example, take a many syllabled word, such as "overwhelming" which was employed in the previous sentence: of course the person who said "over" was identical with the person who said "ing." But there was a fraction of a second between the two occasions. And yet the speaker enjoyed his self-identity during the pronunciation of the word, and the listeners never doubted the self-identity of the speaker. Also throughout this period of saying that word everyone, including the speaker, was expecting him to finish the sentence in the immediate future



beyond the present; and the sentence had commenced in the more distant past.

VIII

This problem of "personal identity" in a changing world of occasions is the key example for understanding the essential fusion of the World of Activity with the World of Value. The immortality of Value has entered into the changefulness which is the essential character of Activity. "Personal identity" is exhibited when the change in the details of fact exhibits an identity of primary character amid secondary changes of value. This identity serves the double rôle of shaping a fact and realizing a specific value.

This preservation of a type of value in a sequence of change is a form of emphasis. A unity of style amid a flux of detail adds to the importance of the various details and illustrates the intrinsic value of that style which elicits such emphasis from the details. The confusion of variety is transformed into the co-ordinated unity of a dominant character. The many become one, and by this miracle achieve a triumph of effectiveness—for good or for evil. This achievement is the essence of art and of moral purpose. The World of Fact would dissolve into the nothingness of confusion apart from its modes of unity derived from its preservation of dominant characters of Value.

IX

Personality is the extreme example of the sustained realization of a type of value. The co-ordination of a social system is the vaguer form. In a short lecture a discussion of social systems must be omitted. The topic stretches from the physical Laws of Nature to the tribes and nations of Human Beings. But one remark must be made—namely, that the more effective social systems involve a large infusion of various sorts of personalities as subordinate elements in their make-up—for example, an animal body, or a society of animals, such as human beings.

Personal Identity is a difficult notion. It is dominant in human experience; the notions of civil law are based upon it. The same man is sent to prison who committed the robbery; and the same materials survive for centuries, and for millions of years. We cannot dismiss Personal Identity without dismissing the whole of human thought as expressed in every language.

X

The whole literature of the European races upon this subject is based upon notions which, within the last hundred years, have been completely

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discarded. The notion of the fixity of species and genera, and the notion of the unqualified definiteness of their distinction from each other, dominate the literary traditions of Philosophy, Religion, and Science. To-day, these presuppositions of fixity and distinction have explicitly vanished: but in fact they dominate learned literature. Learning preserves the errors of the past, as well as its wisdom. For this reason, dictionaries are public dangers, although they are necessities.

Each single example of personal identity is a special mode of co-ordination of the ideal world into a limited rôle of effectiveness. This maintenance of character is the way in which the finitude of the actual world embraces the infinitude of possibility. In each personality, the large infinitude of possibility is recessive and ineffective; but a perspective of ideal existence enters into the finite actuality. Also this entrance is more or less; there are grades of dominance and grades of recessiveness. The pattern of such grades and the ideal entities which they involve, constitute the character of that persistent fact of personal existence in the World of Activity. The essential co-ordination of values dominates the essential differentiation of facts.

We do not adequately analyse any one personal existence; and still less is there any accuracy in the divisions into species and genera. For practical purposes in the immediate surroundings such divisions are necessary ways of developing thought. But we can give no sufficient definitions of what we mean by "practical purposes" or by "immediate surroundings." The result is that we are confronted with a vague spread of human life, animal life, vegetable life, living cells, and material existences with personal identity devoid of life in the ordinary usage of that word.

XI

The notion of "character," as an essential factor in personal identity, illustrates the truth that the concept of Ideas must be conceived as involving gradations of generality. For example, the character of an animal belongs to a higher grade of ideas than does the special taste of food, enjoyed at some moment of its existence. Also for art, the particular shade of blue in a picture belongs to a lower grade of ideas than does the special aesthetic beauty of the picture as a whole. Each picture is beautiful in its own way, and that beauty can only be reproduced by another picture with the identical design of the identical colours.

Then there are grades of aesthetic beauty, which constitute the ideals of different schools and periods of art. Thus the variation in the grades of ideas is endless, and it is not to be understood as a single line of increasing generality. This variation may be conceived as a spread involving an infinitude of dimensions. We can only

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conceive a finite fragment of this spread of grades. But as we choose a single line of advance in such generality, we seem to meet a higher type of value. For example, we enjoy a colour, but the enjoyment of the picture—if it is a good picture—involves a higher grade of value.

One aspect of evil is when a higher grade of adequate intensity is thwarted by the intrusion of a lower grade.

This is why the mere material world suggests to us no concepts of good or evil, because we can discern in it no system of grades of value.

XII

The World of Value contains within itself Evil as well as Good. In this respect the philosophic tradition derived from classical Greek thought is astoundingly superficial. It discloses the emotional attitude of fortunate individuals in a beautiful world. Ancient Hebrew literature emphasizes morality. Palestine was the unhappy battle-ground of opposing civilizations. The outcome in the gifted population was deep moral intuition interwoven with barbaric notions. Hebrew and Hellenic thought are fused together in Christian theology, with considerable loss to the finer insights of both. But Hellenic and Hebrew literature together exhibit a genius of aesthetic and moral revelation upon which any endeavour to understand the functioning of the World of Value must base itself.

Values require each other. The essential character of the World of Value is co-ordination. Its activity consists in the approach to multiplicity by the adjustment of its many potentialities into finite unities, each unity with a group of dominant ideas of value, mutually interwoven, and reducing the infinity of values into a graduated perspective, fading into complete exclusion.

Thus the reality inherent in the World of Value involves the primary experience of the finite perspectives for realization in the essential multiplicity of the World of Activity. But the World of Value emphasizes the essential unity of the many; whereas the World of Fact emphasizes the essential multiplicity in the realization of this unity. Thus the Universe, which embraces both Worlds, exhibits the one as many, and the many as one.

XIII

The main thesis in this lecture is that we naturally simplify the complexity of the Universe by considering it in the guise of two abstractions—namely, the World of multiple Activities and the World of co-ordinated Value. The prime characteristic of one world is change, and of the other world is immortality. But the understanding of the Universe requires that each World exhibits the impress of the other.

For this reason the World of Change develops Enduring Personal Identity as its effective aspect for the realization of value. Apart from some mode of personality there is trivialization of value.

But Realization is an essential factor in the World of Value, to save it from the mere futility of abstract hypothesis. Thus the effective realization of value in the World of Change should find its counterpart in the World of Value;—this means that temporal personality in one world involves immortal personality in the other.

Another way of stating this conclusion is that every factor in the Universe has two aspects for our abstractions of thought. The factor can be considered on its temporal side in the World of Change, and on its immortal side in the World of Value. We have already employed this doctrine in respect to the Platonic Ideas;—they are temporal characterizations, and immortal types of value. [We are using, with some distortion, Plato's doctrine of Imitation.]

XIV

The World of Value exhibits the essential unification of the Universe. Thus while it exhibits the immortal side of the many persons, it also involves the unification of personality. This is the concept of God.

[But it is not the God of the learned tradition of Christian Theology, nor is it the diffused God of the Hindu Buddhist tradition. The concept lies somewhere between the two.] He is the intangible fact at the base of finite existence.

In the first place, the World of Value is not the World of Active Creativity. It is the persuasive co-ordination of the essential multiplicity of Creative Action. Thus God, whose existence is founded in Value, is to be conceived as persuasive towards an ideal co-ordination.

Also he is the unification of the multiple personalities received from the Active World. In this way, we conceive the World of Value in the guise of the co-ordination of many personal individualities as factors in the nature of God.

But according to the doctrine here put forward, this is only half the truth. For God in the World of Value is equally a factor in each of the many personal existences in the World of Change. The emphasis upon the divine factor in human nature is of the essence of religious thought.

XV

The discussion of this conclusion leads to the examination of the notions of Life, Consciousness, Memory, and Anticipation.

Consciousness can vary in character. In its essence it requires emphasis on finitude, namely, some recognition of "this" and "that." It may also involve a varying extent of memory, or anticipation. Memory is very variable; of the present, devoid of experience, the greater part of our feelings and except for a few scraps of experience, the greater part of our feelings are enjoyed and pass. The same statement is true of anticipation.

Our sense-experiences are superficial, and fail to indicate the massive self-enjoyment derived from internal bodily functioning. Indeed human experience can be described as a flood of self-enjoyment, diversified by a trickle of conscious memory and conscious anticipation. The development of literary habits has directed attention to superficial sense-experiences, such as sight and hearing; the deeper notions of "bowels of compassion," and "loving hearts" are derived from human experience as it functioned three thousand years ago. To-day, they are worn out literary gestures. And yet to-day, a careful doctor will sit down and chat, while he observes the types of bodily experiences of the patient.

When memory and anticipation are completely absent, there is complete conformity to the average influence of the immediate past. There is no conscious confrontation of memory with possibility. Such a situation produces the activity of mere matter. When there is memory, however feeble and short-lived, the average influence of the immediate past, or future, ceases to dominate exclusively. There is then reaction against mere average material domination. Thus the universe is material in proportion to the restriction of memory and anticipation.

According to this account of the World of Activity there is no need to postulate two essentially different types of Active Entities, namely, the purely material entities and the entities alive with various modes of experiencing. The latter type is sufficient to account for the characteristics of that World, when we allow for variety of recessiveness and dominance among the basic factors of experience, namely, consciousness, memory, and anticipation. This conclusion has the advantage of indicating the possibility of the emergence of Life from the lifeless material of this planet—namely, by the gradual emergence of memory and anticipation.

XVI

We now have to consider the constitution of the World of Value arising from its essential embodiment of the World of Fact.

The basic elements in the World of Fact are finite activities; the basic character of the World of Value is its timeless co-ordination of the infinitude of possibility for realization. In the Universe the status of the World of Fact is that of an abstraction requiring, for the completion of its concrete reality, Value and Purpose. Also in the Universe the status of the World

of Value is that of an abstraction requiring, for the completion of its concrete reality, the factuality of Finite Activity. We now pass to this second question.

The primary basis of the World of Value is the co-ordination of all possibility for entry into the active World of Fact. Such co-ordination involves Harmony and Frustration, Beauty and Ugliness, Attraction and Aversion. Also there is a measure of fusion in respect to each pair of antitheses—for example, some definite possibility for realization will involve some degree of Harmony and some degree of Frustration, and so on for every other pair of antitheses.

The long tradition of European philosophy and theology has been haunted by two misconceptions. One of these misconceptions is the notion of independent existence. This error has a double origin, one civilized, and the other barbaric. The civilized origin of the notion of independent existence is the tendency of sensitive people, when they experience some factor of value on its noblest side, to feel that they are enjoying some ultimate essence of the Universe, and that therefore its existence must include an absolute independence of all inferior types. It is this final conclusion of the absolute-ness of independence to which I am objecting. This error haunted Plato in respect to his Ideas, and more especially in respect to the mathematical Ideas which he so greatly enjoyed.

The second misconception is derived from the earlier types of successful civilized, or half-civilized, social system. The apparatus for preserving unity is stressed. These structures involved despotic government, sometimes better and sometimes worse. As civilization emerged, the social system required such modes of co-ordination.

We have evidence of the Hebrews feeling the inefficiency of casual leadership, and asking for a king—to the disgust of the priests, or at least of the later priests who wrote up the story.

Thus an unconscious presupposition was diffused that a successful social system required despotism. This notion was based on the barbaric fact, that violence was the primary mode of sustaining large-scale social existence. This belief is not yet extinct. We can see the emergence of civilized concepts in Greek and Hebrew social systems, and in the emphasis of the Roman Empire upon the development of a legal system, which was partially self-sustaining. The Roman legions were mainly stationed on the borders of the Empire.

But in later Europe the great example of the rise of civilized notions was set by the monasteries in the early middle ages. Institutions, such as Cluny in its prime, upheld the ideal of social systems devoid of violence, and yet maintaining a large effectiveness. Unfortunately all human edifices require repair and reconstruction; but our immense debt to mediæval monasteries should not be obscured by their need of reform at the end of that epoch. The clever men of the eighteenth century expressed in words ideals enacted



centuries earlier. In the modern world the activities of Cluny have been reproduced by the work of convents in regions such as Brittany and New England, but rarely in places where religion is associated with wealth.

Sociological analysis at the present moment is concentrated upon these essential factors which presented the easiest field. Such a factor was the economic motive; it would be unfair to ascribe this limited outlook to Adam Smith, although it certainly dominated his followers in the later generations. Then Idealism was in the background: the abolition of slavery was its final effort. The primary example, in the civilization of Europe after the fall of the Western branch of the Roman Empire, was afforded by the Christian monasteries in their early period.

XVII

The conclusion of this discussion is twofold. One side is that the ascription of mere happiness, and of arbitrary power to the nature of God is a profanation. This nature conceived as the unification derived from the World of Value is founded on ideals of perfection, moral and æsthetic. It receives into its unity the scattered effectiveness of realized activities, transformed by the supremacy of its own ideals. The result is Tragedy, Sympathy, and the Happiness evoked by actualized Heroism.

Of course we are unable to conceive the experience of the Supreme Unity of Existence. But these are the human terms in which we can glimpse the origin of that drive towards limited ideals of perfection which haunts the Universe. This immortality of the World of Action, derived from its transformation in God's nature is beyond our imagination to conceive. The various attempts at description are often shocking and profane. What does haunt our imagination is that the immediate facts of present action pass into permanent significance for the Universe. The insistent notion of Right and Wrong, Achievement and Failure, depends upon this background. Otherwise every activity is merely a passing whiff of insignificance.

XVIII

The final topic remaining for discussion opens a large question. So far, this lecture has proceeded in the form of dogmatic statement. What is the evidence to which it appeals?

The only answer is the reaction of our own nature to the general aspect of life in the Universe.

This answer involves complete disagreement with a widespread tradition of philosophic thought. This erroneous tradition presupposes independent

existences; and this presupposition involves the possibility of an adequate description of a finite fact. The result is the presupposition of adequate separate premises from which argument can proceed.

For example, much philosophic thought is based upon the faked adequacy of some account of various modes of human experience. Thence we reach some simple conclusion as to the essential character of human knowledge, and of its essential limitation. Namely, we know what we cannot know.

Understand that I am not denying the importance of the analysis of experience: far from it. The progress of human thought is derived from the progressive enlightenment produced thereby. [What I am objecting to is the absurd trust in the adequacy of our knowledge.] The self-confidence of learned people is the comic tragedy of civilization.

There is not a sentence which adequately states its own meaning. There is always a background of presupposition which defies analysis by reason of its infinitude.

Let us take the simplest case; for example, the sentence, "One and one make two."

Obviously this sentence omits a necessary limitation. For one thing and itself make one thing. So we ought to say, "One thing and another thing make two things." This must mean that the togetherness of one thing with another thing issues in a group of two things.

At this stage all sorts of difficulties arise. There must be the proper sort of things in the proper sort of togetherness. The togetherness of a spark and gunpowder produces an explosion, which is very unlike two things. Thus we should say, "The proper sort of togetherness of one thing and another thing produces the sort of group which we call two things." Common sense at once tells you what is meant. But unfortunately there is no adequate analysis of common sense, because it involves our relation to the infinity of the Universe.

Also there is another difficulty. When anything is placed in another situation, it changes. Every hostess takes account of this truth when she invites suitable guests to a party; and every cook presupposes it as she proceeds to cook the dinner. Of course, the statement, "One and one make two" assumes that the changes in the shift of circumstance are unimportant. But it is impossible for us to analyse this notion of "unimportant change." We have to rely upon common sense.

In fact, there is not a sentence, or a word, with a meaning which is independent of the circumstances under which it is uttered. The essence of unscholarly thought consists in a neglect of this truth. Also it is equally the essence of common sense to neglect these differences of background when they are irrelevant to the immediate purpose. My point is that we cannot rely upon any adequate explicit analysis.

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The conclusion is that Logic, conceived as an adequate analysis of the advance of thought, is a fake. It is a superb instrument, but it requires a background of common sense.

To take another example: Consider the "exact" statements of the various schools of Christian Theology. If the leaders of any ecclesiastical organization at present existing were transported back to the sixteenth century, and stated their full beliefs, historical and doctrinal, either in Geneva or in Spain, then Calvin, or the Inquisitors, would have been profoundly shocked, and would have acted according to their habits in such cases. Perhaps, after some explanation, both Calvin and the Inquisitors would have had the sense to shift the emphasis of their own beliefs. That is another question which does not concern us.

My point is that the final outlook of Philosophic thought cannot be based upon the exact statements which form the basis of special sciences.

The exactness is a fake.

## *Mathematics and the Good*

### I

ABOUT TWO THOUSAND three hundred years ago a famous lecture was delivered. The audience was distinguished: among others it included Aristotle and Xenophon. The topic of the lecture was The Notion of The Good. The lecturer was competent: he was Plato.

The lecture was a failure, so far as concerned the elucidation of its professed topic; for the lecturer mainly devoted himself to Mathematics. Since Plato with his immediate circle of disciples, the Notion of The Good has disengaged itself from mathematics. Also in modern times eminent Platonic scholars with a few exceptions successfully conceal their interest in mathematics. Plato, throughout his life, maintained his sense of the importance of mathematical thought in relation to the search for the ideal. In one of his latest writings he terms such ignorance "swinish." That is how he would characterize the bulk of Platonic scholars of the last century. The epithet is his, not mine.

But undoubtedly his lecture was a failure; for he did not succeed in making evident to future generations his intuition of mathematics as elucidating the notion of The Good. Many mathematicians have been good men—for example, Pascal and Newton. Also many philosophers have been mathematicians. But the peculiar associations of mathematics and The Good remains an undeveloped topic, since its first introduction by Plato. There have been researches into the topic conceived as an interesting characteristic of Plato's mind. But the doctrine, conceived as a basic truth of philosophy, faded from active thought after the first immediate Platonic epoch. Throughout the various ages of European civilization, moral philosophy and mathematics have been assigned to separate departments of university life.

It is the purpose of the present essay to investigate this topic in the light of our modern knowledge. The progress of thought and the expansion of language now make comparatively easy some slight elucidation of ideas which Plato could only express with obscure sentences and misleading myths. You will understand, however, that I am not writing on Plato. My topic is the connection between modern mathematics and the notion of The Good. No reference to any detailed mathematical theorems will be essentially involved. We shall be considering the general nature of the science which is now in process of development. This is a philosophic investigation. Many mathematicians know their details but are ignorant of any philosophic characterization of their science.