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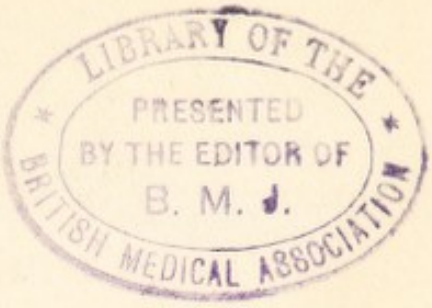
PSYCHOLOGICAL APPROACH TO REALITY

FRANCIS AVELING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THE PSYCHOLOGICAL APPROACH TO REALITY

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BY

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FOREWORD

THIS little book is concerned with the problem of Truth and Reality. It is an old problem, raised in a variety of ways in the course of history, and in one way or another forcing itself with a certain degree of acuteness and urgency upon the minds of most people who think. It is a theoretical problem rather than a practical one; since, whether we solve it to our satisfaction or not, we somehow manage to get on with our life and living, taking many things for granted which we cannot, perhaps, understand or explain. None the less, the intellectual need for understanding and explanation remains. We want to know what Reality is, and how we may discern the False from the True.

In the statement and the solution of the problem, as here presented, we shall take for granted only what must be granted; and this every reader will determine for himself, since the initial standpoint we shall adopt is that of solipsism.

The book makes small claim to originality or novelty except in three respects: firstly, the method of the enquiry by which the examination and the solution of the problem is undertaken; secondly, the employment towards that solution of the Principles of Noegenesis, epoch-marking in psychology, as formulated by Spearman; and, thirdly, the use made of the results of a number of researches, derivatives of those of the Würzburg and Louvain Schools, carried out in the laboratory of the author upon the human will. No claim whatever is made that the many ramifications of the problem have been followed up, or even that all the implications of what is here presented are worked out in full. Much compression in places has been necessary for the sake of brevity. For that reason also, though the teachings of not a few psychologists and philosophers have been, as he wrote, in the author's mind, references to them have not been given. The philosopher and the psychologist professed will not need them; and other readers will not want them.

Since the problem is envisaged from the point of view of solipsism, from the very nature of the case, every reader must verify each statement on

his own behalf. The author has developed both problem and solution in his own way. The standpoint, however, is a difficult one to maintain in form of exposition throughout; and he craves the indulgence of his readers for the inevitable transitions in the text from the solipsistic to the realistic manner of statement.

F. AVELING.

LONDON, *March 16th*, 1929.

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THE PSYCHOLOGICAL PROBLEMS

CHAPTER I

THE PSYCHOLOGICAL PROBLEMS

"... if a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties."—BACON, *Advancement of Learning*, I.

PROBLEMS concerning truth and human knowledge—what knowledge is, what it is about, what it is worth—are the most central and fundamental problems of all philosophy. They are the central problems, in that a systematic attempt made towards the solution of any problem whatsoever will ultimately lead to their being raised. If we only press our questions far enough, we come to these problems in the end, as to the very heart of the whole matter. They are fundamental problems in the sense that upon their solution the value of the solution of any other problem depends; for if knowledge as such is called into question, if the object of knowledge as such is involved in doubt, if the truth value of knowledge is disputed, then the nature, the reference and the worth of any item claiming to be a part of knowledge become at

once questionable, disputable and doubtful. No matter at what point we may begin to interrogate Nature or ourselves, we come at length to ask the question: "Is it true?" with regard to any answer we may receive. We come to the point at which we must ask: "What is the value of our knowledge? How does it arise; and to what, if anything, does it refer?"

Stated thus, the problems concerning knowledge are seen to be essentially psychological problems; for knowledge is itself a mental or psychological event. The act of knowing is a mental—indeed, an entirely personal and incommunicable—process; the object of knowing is an object known, a product—again entirely personal and incommunicable—of the knowing act; the worth of the object as known can only be tested or evaluated within knowledge itself. It is as personal and incommunicable as either act or object is. We cannot go outside our knowledge in order to examine it. Each one of us must make his examination from within, and for himself; since there is, and can be, no other way of making it.

Nevertheless, though the problems of knowledge, once they are clearly raised, are seen to

be psychological problems ; though the only data available for their solution are psychological data, and the method to be adopted a psychological one ; their solution may, and indeed in the event must, lead beyond the confines of psychology as a science dealing with mental events alone, to sciences which deal with facts, events and laws of quite another order. Still more will it lead away from the initial state of solipsism [1] from

[1] By solipsism is meant the ultra-subjective and idealist view that the individual mind can with certainty and intuition know only itself and its own ideas and states. These exist and are known to exist. Objective (transcendental) reality, however, is neither known nor demonstrable as existent. What we call ' bodies ' are in reality no more than ideas occurring in the individual mind of the solipsist ; and other ' minds ' than his are only ' known ' by interpreting these subjective ideas on analogy with knowledge of himself. The individual, accordingly, is only certain of his own personal existence, no other reality being either intuited or capable of proof.

This doctrine, which has scarcely if ever been maintained in its rigorous epistemological and metaphysical form, is a derivation of the Cartesian philosophy, resting upon the ' indubitable ' intuition *cogito ergo sum* of Descartes, and critically rejecting the various theories put forward to account for knowledge of objective reality. As a metaphysical belief it is obviously irrefutable ; though in any attempt to prove it to others the solipsist involves himself in a refutation of his own doctrine.

In this book we are not primarily concerned with metaphysics ; but the standpoint of solipsism, at any rate so far as it is positive, is taken up as an initial one from which to set out upon a psychological enquiry. In so far as it is negative, we shall suspend judgement until there appear positive reasons for rejecting it.

which the whole enquiry must necessarily proceed. The original datum with which each one of us begins is the fact: "I know something"; and, paradoxical as it may seem to be, in knowing (which clearly is a purely personal and incommunicable affair) we seem to pass beyond ourselves in thought to other things and persons; the objects (things and persons which, when known, seem clearly somehow to be identified with ourselves) seem also certainly to be other than and transcendental to ourselves.

The original datum: "I know something" becomes further specified in knowledge. We exist; objects exist; relations obtain between these objects and ourselves, and between one object and another. Some of these relations are contingent, others are necessary and universal. These are among the ordinary and unreflecting convictions of mankind, upon which all the practice and conduct of actual living is based; and no philosophising upon them will suffice to

Accordingly, as is pointed out in the text, each individual reader must tread the path of the enquiry himself and for himself. It is from personal Self-knowledge (a psychological datum) and by means of principles found within knowledge (psychological principles) that we shall pass over from subjective to objective reality and discover the criterion of truth.

shake them. The real problem is: "Can these beliefs be justified upon reflection, or can they not?"

The problem may be stated in another, though no less psychological form, in which the point at issue is raised in connection with the mental states of certainty and doubt. These states of doubt and certainty are no more than psychological events; and as such, once again, they are both personal and incommunicable. But they invariably have reference to objects and their relations. There are matters with regard to which we have no doubt, of which we are quite certain; as, for example, that two and two are equal to four; that the page we are reading displays black letters upon a white ground; that it is a 'real' page in a 'real' book; that a Conservative Government (or a Liberal, as the case may be) is most advantageous to the citizens of the country; that our friends are worthy of our trust and esteem; and other matters of like sort.

All such matters, with regard to which we may be certain, clearly may belong to very different orders; and for that reason certainty, which is no more than an attitude of mind, a mental

fact or event, has sometimes been distinguished into kinds—as, for instance, physical, mathematical, metaphysical or moral certainty. Yet, as far as the mental fact, the psychological attitude, is concerned, certainty is always identical with itself; we may be just as certain of one of these matters as of another. If this were all that is to be said, the problem of certainty assuredly would never have arisen. We should just be certain; and that would be the end of the matter. But, as a fact (again it is a psychological event) sometimes we doubt; and the shadows of our doubts cast themselves upon our certainty, thus raising the issue as to its value. For not only do we doubt in regard to matters in respect of which we have no reasons for being certain one way or the other (as to whether, for example, the sum of all the stars is an even or an uneven number); as well as matters for and against which reasons are to be found on either hand. Not only do we doubt matters in regard to which we have never been certain and are not certain now. We often also come to doubt things of which we once were absolutely certain; and often come to reject as false what once we were absolutely convinced

was really true. The fact that we do sometimes doubt raises the problem of the value of our certainty at all times. What is that certainty worth? What does it mean; and to what, if anything, does it refer?

There is yet a third way of stating the problem of knowledge from the psychological point of view. There are many things which we believe, which we hold to be true, as for example, among others, the propositions set forth in the previous paragraph. Belief, however, like knowledge, certainty or doubt, is no more than a psychological event. It is a mental assent, an attitude of mind taken towards an object or towards relations between objects, in which we hold them actually to be as we represent them to be. But when we come to analyse belief introspectively we discover that, though it may always be characterised by certainty, it sometimes is and sometimes is not characterised by intuition or insight. When we make two and two one mental object and four another, the relation of equality between them is insightfully apprehended. We assent to it in belief, and we are certain of it. These are no more than psychological facts; and they are indisputable. Similarly in the case

of the black lettering upon the white page, we intuitively apprehend the items in their relation, we believe in them and are certain of them. But this is not so obviously the case with regard to the trustworthiness of our friends or the relative advantages of particular platforms of party government. It is true that we may believe without the slightest shadow of doubt and with the utmost certainty matters of this kind. Indeed, most of our judgements undoubtedly formulate such beliefs. But it cannot be said that the relations expressed in such judgements are always intuitively apprehended or with insight. We believe them, we are certain of them; but properly speaking we cannot be said to know them. There is a difference, both in popular and in philosophical usage, between the terms 'believing' and 'knowing.' Since, then, we are to be occupied with problems of truth and knowledge, and since knowledge is characterised by insight, the present problem may be set in the following terms. What is this insight; to what does it relate; and what is its worth? Though, like knowledge or certainty, a subjective event, has it objective reference; and, if so, what value may be assigned to it?

The psychological aspect, from which the problem of knowledge has provisionally been stated in the foregoing paragraphs, is a highly abstract one. Insight, as well as certainty or doubt, is a psychological fact. But it has here been presented (so, indeed, have certainty and knowledge itself) as a fact or event considered abstractly from the whole of the personal consciousness of which it, and they, are only parts or aspects. We do not merely know, or apprehend with insight, or experience certainty. We also feel and will; and our feeling and willing are no less parts or aspects of our consciousness when we know, or are in certainty or doubt, than the knowing or certainty or doubt themselves are. From the affective point of view doubt is an unpleasant state and certainty a pleasant one. From the point of view of will doubt is a restless and unstable state from which we seek escape, while certainty is a state of mental calm or poise in which we acquiesce and seek to rest. These affective and volitional parts or aspects of the total, personal, concrete consciousness assuredly must not be overlooked in any enquiry into the nature, the object and the value of knowledge; for it may be that they

contribute necessary data towards the solution of some of, or of all the problems which it raises.

None the less, our primary concern must be with knowledge, certainty and insight considered in themselves and abstractly. Abstraction is not falsification or deformation; and, though into the cognitive consciousness both will and feeling may necessarily enter as aspects, it is with knowledge itself, and not with them, that we are to be occupied. Though conceivably both knowledge and certainty (and possibly even insight) might be the effects either of volition or of affection, clearly no one of them *is* an affection or a volition. To know, to be certain, to have insight, is neither to will nor to be pleased or unpleased. This, again, is an immediate datum of personal consciousness and accordingly indisputable.

We begin, then, with the psychological fact or event: "I know something; I am certain; I have insight." What is it that I know? Of what am I certain? Into what have I insight? These questions have logical precedence over all others; though the answers to them do not solve any of the problems, nor are they intended to solve them. They merely develop the implica-

tion of the original datum itself. They are no more than introspective descriptions of what the full experience of knowing, or of being certain, or of having insight, is. And this experience, it must be emphasised, is an original deliverance of consciousness, before we can even begin to examine it introspectively or to reflect upon it.

Spontaneously we arrive at our knowledge, spontaneously we apprehend with insight, spontaneously we reach our certainty, before it is possible either to examine or to reflect upon them. We could neither examine nor reflect upon a mental event which never had occurred.

Given, however, this original spontaneous knowledge, this primitive and unreflecting insight and certainty "that something is known," we have to ask, not: "What are all the items that we know?" but: "Into what classes do those items fall?" For our enquiry is to be a general one, having regard to no one item of knowledge in particular, nor to any one insight or certainty, but to knowledge, certainty and insight as such. When, therefore, we ask these preliminary questions, it is not to obtain an inventory or list of items, but to discover the essential characters, or knowledgeableness, of the kinds

of matters that enter into knowledge, the kinds of things into which we have insight and of which we are spontaneously certain.

When we examine our primitive certainties introspectively, we find that they are concerned with two kinds, or orders, of knowledge with regard to which we have insight; knowledge, namely, of concrete facts or events, and knowledge of ideal principles or truths. In either case what we are certain of is that the fact or event, or the principle, is so; that it is as we conceive it to be, irrespectively of the fact that we happen to be conceiving it, or knowing it, or being certain of it. Our certainty consists in that state of mind in which our knowledge is equated with some objective reality and held to be in accord or harmony with it. And this equation, this relation between known fact or principle and objective real fact or principle, is what is meant by the term 'truth.'

At this point the problems of knowledge may, accordingly, be restated in epistemological, rather than in psychological terms; in which connection they have reference not so much to knowledge, certainty or insight (which might

conceivably be purely personal, subjective and illusory) as to the reality with which knowledge seems spontaneously to be occupied. We have already seen that, as far as reality constitutes knowledge, it falls into two orders: the reality of fact or event, and the reality of ideal principles. There will, accordingly, be several epistemological problems, all bearing upon the objectivity and the existence of this reality.

In the first place, there is the problem as to the real existence of the concrete facts or events which we know. Is the equation in which we hold truth to consist satisfied as between any existent, extra-mental, real fact or event and the known fact or event? Does the one correspond to the other? How is such correspondence to be itself known?

In the second place, there is the problem of the real objectivity of ideal principles, axiomatic truths, and the like. Is the truth-equation satisfied as between these as they are found in existent knowledge and any extra-mental reality? Is there an ideal order of truth to which our ideal judgements may correspond. And, again, how may any such correspondence be known?

In the third place, there is the problem of the objective reality of the concepts or notions which we assert or deny of the subjects of every judgement which we make. Is there any truth-relation between these concepts as they are discovered introspectively in our knowledge and some objective, extra-mental reality to which they refer? And, if so, what is that reality in relation to which they can be said to be true?

Lastly, there is the problem which has to do with the necessity and universality with which our judgements seem to be affected. We do not only know that two and two are equal to four; we are not only certain of this; but we know and are certain that they must be equal to four, in no matter what circumstances, or to whatever experiences the principle may be applied. Is this universality and necessity, as a character of the relation expressed in the mental judgement, the term or fundament of a truth-relation into which some other term, objective, extra-mental and real also enters? If so, what is that term; and how can it be known?

With regard to all the four members into which the problem of knowledge has just been separated, it will be noticed that two questions constantly

recur: "Is there a truth-relation, as we conceive this, between something mental on the one hand and something objective and extra-mental on the other? What is the criterion in virtue of which, supposing a truth-relation to be possible, we may know that it actually obtains in any given case?" These two questions must be answered in respect both of percepts and of concepts as well of the relations which hold good between them, if we are to reach any consistent and valid epistemological theory. They must, moreover, be answered without going beyond the data of psychology to find the materials for their answers. All the materials of which we are entitled to make use must be found within our knowledge; since to suppose otherwise is to suppose something utterly meaningless and nonsensical.

But the problem as a whole and in all its details may be set in quite another way, no less psychological in the sense of depending upon introspective data, yet objective rather than subjective from start to finish.

It has commonly been taken for granted, even by psychologists, that experience when known

splits up, as it were, into two definite classes, the one objective and the other subjective. Outer (objective) experience we reach by way of simple inspection ; inner experience is given introspectively or, as some prefer, in retrospect. This distinction readily accords with the popular view that the Mind, or knowing Subject, is in some way set over against the objects which it knows, or is capable of knowing. Its knowledge of these objects is objective knowledge, given in outer experience, and quite other than any knowledge it may have of itself or of its own operations or states. Thus a tree or a man or a horse are looked upon as in no wise mental events but as real extra-mental entities, located somewhere in space and somewhen in time, and possessing their existence independently of our awareness of them. Similarly, though this is in no way so obvious, qualities such as ' red ' or ' cold ' or ' extended ' or ' impenetrable ' are looked upon as qualities belonging to objects rather than to Mind ; items of outer rather than inner experience. And these qualities, including relations when they are regarded as substantival instead of adjectival, are also looked upon as in some sense objective. ' Redness,' ' coolness,' ' extension,' ' impenetra-

bility,' belong to objects also, not to Minds; as, likewise, do such complex qualities or systems of qualities as we denote by such terms as 'manhood,' 'corporeality,' 'justice,' 'goodness,' or the like. Moreover, all these objects and objective qualities are regarded as entering into objective relations with each other which, like them, are also given as outer experience on inspection. "There are two trees growing in the garden. There is a likeness between them in that their leaves are 'green'; but they are unlike because one is taller than the other." Trees, garden, likeness and so on are 'objective.'

On the other hand, so it is held, there is also subjective experience. This we can only reach by 'turning the Mind in upon itself' in order to discover what is there. And upon performing this feat, it is said, we find feelings, emotions, strivings, acts of perceiving, judging, willing, mental images, and the like. These, clearly, do not 'belong' to objects; they belong to us. Hence they are subjective—mental contents, mental states, mental acts, and inferentially mental dispositions, given in introspective or inner experience alone.

This popular view, as has been said, is supported

by the psychological doctrine that there are in fact two kinds of experience, outer and inner, and that these are psychologically distinguishable. It need scarcely be emphasised in this connection that ' experience ' must be taken here to mean cognised or known experience. Mere lived experience could never be directly distinguished in this way. It is therefore claimed that we do know mental states and acts and functions *as* subjective and as distinguishable in kind from the objects of outer experience. The distinction in question is enshrined in the now classical Act and Content psychology, and again in the Structure and Function psychology of more recent invention.

In point of fact the Subjective-objective distinction cannot be supported, in the sense in which it is maintained, by an appeal to introspection. To describe a tree growing in the garden, or a watch lying on the table, is as much to describe a mental object as to describe a feeling or a willing or a mental image is ; for in all these cases it is something known (i.e. forming part of knowledge, which is mental) that is described. In this sense inspection and introspection are equivalent. On the other hand, to discover a mental image on introspection is to discover a content or bit of

'mental structure' which is in every way as objective as the tree or watch can be. For the image is not the Mind or knowing Subject; it has no reference, even, to the Mind. It may not be (and, when images occur, I believe that in no case they are) the whole of the object thought, or even any part of the object thought; but none the less, as 'image,' however sketchy or fragmentary, it represents or illustrates that object, just as a bad drawing or a symbolic picture represents that which it is supposed to illustrate. The image may be part of the object, part of that which is "before a man's mind when he thinks"; or it may be merely the debris of past experiences of objects which comes before the mind by way of association when the object is thought. In either case it is equally objective, localised now and here or then and there, even when it is localised 'inside one's head,' more or less at will. Moreover, while it is certainly objective, that of which it is the image is certainly objective also; and the two are often objectively compared, as when one says: "I had an image of so-and-so. In brilliance and detail it was comparable to the original;" or "It was faint and sketchy and blurred."

The occurrence of these mental images is highly

instructive, since it is in all probability largely due to it that the Subjective-Objective distinction in experience originally arose. To perceive a thing as present and to imagine it when absent appears to point to purely objective and purely subjective experience. But in reality it points in no such direction. Percept and image are equally objective. If anything, it is the act of perceiving and the act of imaging an object that are subjective; and, as we shall immediately see, these acts, as such, are not given in experience at all. In so far as they are known they also are objects or aspects of an object.

Still more instructive, however, is the case in which an object, a quality or a relation may be thought in the absence of any imagery whatsoever. There is then no mental aspect whatever to be discovered on introspection, even in the sense in which an image might be taken to be mental when abstracted from the total experience of which it forms a part. The 'idea' here is simply an object before a man's mind when he thinks it. And the thinking it, the act, is something of which he is not introspectively aware, at any rate not as a bare act. One certainly can think an act as well as he can think

anything else that is thinkable; but he cannot experience or apprehend, either by inspection or by introspection, an act in the abstract.

This may seem to be paradoxical and contrary to all experience. How is it possible, it may be urged, that one can think an act if it is impossible for him to experience it directly? The paradox disappears when we remember that we can perfectly well think an abstract quality or sensation (red, for example, or redness) though it is certainly impossible to apprehend one in isolation. Whether we are to look on things as substances characterised by their qualities, or as constituted of their qualities; whether we are to look upon mental objects, as percepts, images, and the like, as characterised by sensations or as constituted of sensations; it is certain that we never apprehend either quality or sensation alone, though we as certainly can and do think them and give them names.

That which we in reality apprehend when we discover introspectively what we call mental states, mental acts, and the like, is an entity (using the term without prejudice) in this or that state, acting in this or that manner. We really discover and apprehend the Self-enjoying-pleasure or -un-

pleasure, the Self-deciding-upon-one-of-several-alternatives, the Self-thinking, the Self-judging, the Self-resolving, and the like. But this Self characterised by all its states and acts is an object of knowledge as much as any object of 'outer' experience can be. When we speak of volitions, or judgements, or feeling-states, or emotions, we are speaking of abstractions in exactly the same way as when we speak of sensations or of qualities of objects. And they are abstractions reached by exactly the same process in either case; abstractions having a similar objective value in either case, since in both cases they are abstractions practised upon what is always given in experience, 'inner' or 'outer,' as an object.

We may, accordingly, state the epistemological problem without direct reference to any transcendental Self or extra-mental world as follows. What is knowledge; what are its elements; and what is the criterion of truth in respect of any part of it?

Here there is no question of likeness, or equivalence, or indeed of any relation between objects or principles in themselves and objects or principles known. The problem is no longer

that of the conformity of knowledge with any extra-mental reality. But, since all the items of knowledge have precisely the same objective character, it becomes merely a problem of the relations which hold good between those items. And these relations will clearly be as objective as the items (including the relations) which they relate. The items, as we have already seen, are concrete facts or events on the one hand, and ideal principles or truths on the other. But principles themselves are no more than items in relation; so that knowledge, as an objective system, may be defined as the whole related system of concrete facts or events together with such conditions as make their relatedness possible. Facts, events and conditions alike are discoverable in knowledge itself on analysis; and this, accordingly, yields all the elements of knowledge, from the most concrete percept here and now occurring to the most abstract notion such as that of 'being' in general; from the simplest relations as those of identity and difference to the most complicated ones such as those which obtain between concrete percepts and their elements on the one hand and abstract, universal notions on the other.

It would be of the nature of a *tour de force*

to attempt thus objectively to account for knowledge without any reference to the Knower, *as if* there were no Subject concerned in it. But it must be remembered that the Knower has not entirely been left out of the picture. It has been the aim of this chapter to show that the Subject is indeed an object as far as knowledge is concerned, just as much as is any percept, concept, or other event or occurrence. And it is this fact that makes it possible to ask the third question of the problem with any meaning. Since the Knower is at one and the same time both Subject and object known, and since therefore knowledge may be considered as entirely subjective or as entirely objective, it follows that in order to give any adequate account of it from the point of view we are now taking, the Knower as known must never be omitted from consideration. The whole of knowledge must be taken into consideration, and no part of it left out in any attempt to explain it. It is no doubt legitimate to practise abstractions and to speak of them *as if* they existed in their own right: to say impersonally, for instance: "A quality (or sensation) of red occurs," or "It is true that the whole is greater than the part." But such statements, if taken

to be expressive of the known experience concerned, are certainly inadequate. For the experience is not "a quality occurs," or "a truth exists," but "I, the known Knower, perceive red, and grasp the relation of whole and part which constitutes a truth." Nor is this all; for in perceiving the one and grasping the other I at the same time know that *I* perceive and grasp the relation in question.

The third part of our problem relating to the criterion of truth in respect of knowledge arises at this point. The occasional, not to say the frequent, occurrence of error is incontestable. How is it possible that error can ever occur? And how is it possible to know when it has so occurred? If knowledge were entirely objective, consisting in the objective relations between objective known items, would it not just be what it is, neither true nor erroneous? And if, on the other hand, it were merely subjective, in the sense of being the product of subjective activity, would it not be in just the same case? There can be no question either of truth or of error in respect of events and relations which merely occur; and the problem of truth could no more arise here than it would, as we have

seen, in the case of certainty if this were never challenged by doubt.

This is not the place to anticipate a solution which will be developed in a subsequent chapter. But it is clear that a solution of the problem is indicated by the position which knowledge of the Self, as Subject or Knower, occupies in knowledge looked upon as a whole related system of concrete facts or events, together with such conditions as make their relatedness possible. The Self as objectively known shares in the constitution of knowledge, true or erroneous; and the objective relation obtaining between that Self and any other objective item, event or principle can be examined objectively in the same way that any other objective relation can be. It will be apparent later that this Self is known to share in the making of knowledge;[1] and that such error as arises in knowledge has its origin in certain of its activities.

[1] *Vide infra*, Chapter VII.

THE WORLD OF EMPIRICAL REALITY

CHAPTER II

THE WORLD OF EMPIRICAL REALITY

"Ut enim necesse est lancem in libra ponderibus impositis deprimi, sic animum perspicuis cedere."—CICERO, *Acad.* II, xii.

IN the previous chapter the problem of knowledge was stated in two different forms, both of which were seen to be essentially psychological. The first statement arose from a consideration of the subjective states of belief, certainty and insight with regard to facts, events and ideal principles objectively apprehended. Here the problem took the form of questions as to the objective reality of fact, event and principle, and as to any possible 'correspondence' between real, extra-mental objects and principles, on the one hand, and objects and principles as known, on the other.

The second statement was grounded upon the consideration that all knowledge as such consists in the objective occurrence of the items (including the known Subject) and the relations within

knowledge itself. Here the question of 'correspondence' of mental representation with any extra-mental reality drops out; and the problem becomes one of the analysis of knowledge with a view to finding within it a criterion which will permit us to distinguish the true from the false.

The two statements, however, while apparently very different are in reality fundamentally one. For, since it is clearly impossible to establish any 'correspondence' between an extra-mental real and the known by any sort of conscious comparison of them, our knowledge of the existence of the former must be gained entirely within the sphere of the mental; and such 'correspondence' as may legitimately be conceived must likewise be established within the system of knowledge alone. Accordingly, if the problem is raised in the first form, the question in the first place to be asked will not be that having reference to the real extra-mental existence of concrete entities of any sort whatever, but will have to do with the objective character of ideal and empirical judgements (i.e. relations obtaining between items) as found in knowledge. Secondly, as these relations in such principles and judgements hold good between terms one at least of which is always an

abstract concept, the objective reality of these concepts must be examined. Thirdly, some account must be given of the necessary and universal character attaching to certain of these relations. And, finally, the extra-mental reality of the facts and events upon which all this superstructure of knowledge is built will remain to be investigated.

If, on the other hand, the problem of knowledge is stated in the second form, the analysis of knowledge itself as an objective system of items and relations will in the end be found to lead to the discovery of a real and an extra-mental world; while the criterion by means of which truth and error are to be judged will be found still further to emphasise the final distinction to be drawn between knowledge and that to which knowledge refers. This criterion, being thus a part of knowledge considered as an objective system, will also itself be objective and internal; moreover, in the last analysis it will be found to be immediate. The investigation of any truth-equation that may hold between things as known and transcendental things will accordingly be the last step to take in the analysis of knowledge, not the initial one; for, if anywhere, it is and must

be within knowledge itself that a justification is to be found for transcending the known as known and asserting the independent existence of some thing that is or may be known.

In the present chapter we shall adopt the position from which the first statement of the problem was formulated. We shall, accordingly, be concerned with belief and certainty ; and begin with the spontaneous, unreflecting and naïve state of mind—indisputable as a psychological fact or occurrence—which we experience with regard to our judgements. Such judgements have reference either to the order of real, empirical fact of experience ; as when we say that this rose smells sweet, or water rusts iron, or a striving has always an end in view ; or they have reference to the ideal (conceptual) order, not discoverable as such in empirical experience and psychologically entirely distinct from it, as when we judge that the whole is of necessity greater than the part, that a thing cannot both be and not be, or the like. They summarise the relations expressed in axioms and ideal principles, on the one hand, and the relations obtaining between facts or events of immediate empirical experience, on the other. The fundamental question in this connection is

as to whether our spontaneous certainties in regard to these judgements can ever be warranted in any way; whether they can ever be justified upon reflection.

Certainty, like belief and doubt, is a state of mind; but it is inseparable from judgement either explicit or implicit. I am never merely certain; but I am always certain that something or other is so. In the same way I do not ever merely doubt; but I doubt whether it may be so.

At first glance it might seem that percepts, and even sensations, share with judgements the function of generating certainty; but, clearly, in so far as this may seem to be so, it is due to the fact that percepts (and sensations) may be looked upon as implicit judgements. When an apple or orange is, for example, in question—or even, for the matter of that, a red, or a yellow, or an odour—it is always perceived as 'some thing,' and thereby classed; at any rate in adult human life. But classification is of the nature of judgement; and judgements can always be made explicit on the ground of perception or classification. Apple or orange perceived are neither true nor false, except in so far as either is related to something else; or except in so far as elements

entering into the percept by way of association may be confused with elements arising directly in present experience. Even then the percept is neither true nor false until it is related, as it occurs, with what it might have been had no associative processes contributed to its formation. Still more does this consideration hold good in the case of sensations. Unless in reference to existence or non-existence, red or green cannot be said to be true or false as they actually occur in experience except by reference to something other than themselves; nor can there be said to be certainty in their regard nor doubt. They simply occur. But, as a fact, they never do occur unrelated in normal adult experience; and it is with regard to the relations that bind them together, as we shall see, that certainty or doubt arises; that they are true or false. But this is tantamount to saying that the apprehending of a sensation or of a percept is always an implicit judgement. Certainty and doubt, then, can only be treated in connection with the judgements from which they are inseparable; and they must be explained, as to their occurrence, by reference to those judgements.

On reviewing the judgements which actually

and explicitly occur as part of the structure of knowledge, we discover that they fall into several classes. There are, as we have seen, empirical and ideal judgements, distinguished as pertaining to orders of empirical, concrete, and sensory experience, on the one hand, and of ideal, abstract and conceptual knowledge on the other. Judgements are also distinguishable within knowledge itself by their characters of immediacy and mediacy, as well as by the synthetic and analytic processes by which they come to be made.

Thus, there are judgements of a mediate kind, the relation between the terms of which does not emerge consciously upon mere inspection or analysis of the terms in question, but depends upon a consciousness of a series of relations themselves so interrelated that finally the particular relation embodied in the judgement emerges. It is, as a matter of fact, with regard to these mediate judgements that doubt arises most spontaneously and most frequently. Nor should this be a matter for astonishment, if we remember that in them the subjective aspect of knowledge is so largely stressed. It is not the place here to develop the distinction, which

must be drawn at a later stage, between the objective and subjective contributions to knowledge.[1] But, since mere inspection does not suffice us to apprehend the relation between the terms of a mediate judgement, it has to be shown that it in fact does obtain by reference to other relations, and thus traced back to prior judgements in which the relations are immediately apprehended. Consider in illustration a geometrical case. It is not generally a matter of immediate apprehension that the angles of any triangle taken together and the sum of two right angles stand in the relation of equality. The relation does not emerge consciously when the two items ' sum of angles of a triangle ' and ' two right angles ' are in presence. It has to be demonstrated that equality applies. And this is done by a series of steps which, when traced back, end in first judgements, indemonstrable principles, axioms. Each of these steps consists in the mental apprehension of a relation between two terms. Once that relation is apprehended, the next step is taken ; each subsequent step being possible, and justifiable, only because the previous one was apprehended with insight

[1] *Vide infra*, Chapter VII.

and certainty. It does not, however, follow that the prior steps remain insightfully apprehended throughout the demonstration or proof. On the contrary, though no doubt they can be recalled, they only remain in retentivity when the subsequent steps are taken. Even in the transition from one step to the next memory comes into play. And memory, as we shall see when we come to examine the sources of error, is a most notorious one and a very legitimate occasion of doubt.

An even more striking case may be taken from arithmetic. The multiplication table which we learned as children can be reduced to additions; and, when so reduced, each relation enunciated in it (as twice three is six) can be immediately apprehended. It is, however, not usually taught in this way. Children learn their tables by rote and generally without insight into the relations which the tables express. Accordingly, when they come to apply them they rely on rote memory rather than apprehension of the relations; a fruitful occasion of error. Even in simple additions they count on their fingers (relying partly on insight and partly on memory of the names of the numbers) in order to arrive at a sum. No

wonder they make mistakes, depending upon so subjective a factor as we shall find contiguous association to be.

But consider an example of another kind. Suppose I wish to generalise some principle or law—for example, the laws of motion—from empirical observation. Here is a part of the structure of knowledge, a perceived 'body at rest,' i.e. in a continued system of spatial relations with reference to other perceived bodies. This is no more than a psychological datum, the items being simply apprehended in the relation in question. The judgement 'This body is at rest' is an immediate one; the relation in which the body stands to the others being apprehended in immediate empirical experience. Similarly, in the case of a body in motion, the empirical judgement 'This body moves' is no more than the immediate apprehension of the changing spatial relations of the body in respect of others. But when, generalising, the judgement becomes 'A body at rest remains at rest,' or 'A moving body continues its movement,' it no longer expresses only the immediate experience of a change or a continuity in a system of empirically apprehended relations; and it is not an immediate

judgement, except in so far as it may be a special case of the application of the principles of identity and contradiction to the nature of 'a body.' Were these principles false, 'a' body might conceivably at once both be at rest and move. And, further, if the laws are stated 'A body at rest remains at rest unless it is acted upon by a force,' or 'A moving body continues its movement if left alone,' not only are the principles of identity and contradiction involved in the generalisation, but the principle of causality as well.[1]

But these principles themselves are no more than the expression of judgements no less immediate than those with regard to the bodies apprehended empirically as in motion or at rest. They also embody relations obtaining between several abstract terms just as the others embody relations between concrete ones. And the two kinds of judgement—ideal and abstract, empirical and concrete—mediate between them universal judgements such as those expressed in the laws of motion. These considerations not only serve to point the distinction between mediate and immediate judgements; they show also that either kind may be judgements of the empirical

[1] *Vide infra*, Chapter IV.

or the ideal order. Moreover, both kinds have an equal claim to truth; and both engender the same sort of certainty.

As will be shown later, judgements of the ideal order are occasioned by facts of the empirical order, though they are not always derived from these facts. Here we have only to consider that both kinds of judgement occur as psychological events within the system of knowledge; and that they may be equally affected with certainty. It has already been said that it is most frequently the mediate judgements that are open to doubt; and, indeed, it could be maintained that really immediate judgements can never in any circumstances be doubted, but that we are always certain of them; that they are such as necessarily to generate certitude. It does not follow, however, that all immediate judgements are commonly shared by all people. They may be general, in the sense of being the judgements of everyone; on the other hand, they may be special, in the sense of being the judgements of only one or of several persons. We have of course no right at this point of the argument to assume that there are several 'persons' to share immediate, or any other kind

of judgements with us. The distinction is drawn here for the sake of clarity ; and it can be justified only when it has been shown that the initial stage of solipsism [1] must be abandoned. But it leads to the consideration that all judgements without exception might be immediate in a system of knowledge in which all the items and all the relations uniting them were adequately intuited at once.

However this may be, within one's own personal knowledge at least some mediate and some immediate judgements are to be discovered. And analysis of any one of the former kind will bring him at length to one or more of the latter. The doubt which affects the mediate judgements is thereupon either confirmed or dispelled in the dual light of the immediate judgements of the empirical and the ideal orders. This again is a psychological datum. Accordingly, it is in the last resort these immediate judgements towards an examination of which the epistemological problem is in the first place to be directed ; and, since no one such judgement in particular is to be examined for its own sake, but the character of all such judgements in general, the initial reflective

[1] *Vide supra*, p. 5, footnote.

attitude of mind to be adopted in their regard should be one of doubt. Let us doubt in order to discover reasons for not doubting. Not therefore, however, should our doubt be of that kind which sometimes affects our mediate judgements; namely, the suspense of adhesion to them because of positive reasons against them. On the contrary, it should be a doubt which consists in the suspense of waiting for positive reasons for them, and remains a doubt only until such positive reasons arise. Such doubt is methodic in character, since it is the initial stage of a method of reflective examination. It is universal, because it is a voluntary suspense of adhesion in respect of every possible relation between terms that might serve as a basis of judgement. It is negative, in that it is merely a suspense of judgement until the reason for judging becomes clear. And, finally, it is real, and not fictitious, for as long as it may last it is an actual suspense of assent and dissent.

The peculiarity of the immediate judgements which, though spontaneously occurring and with certainty, are thus on reflection voluntarily affected with doubt, is that, unlike mediate judgements, they are indemonstrable. Whereas

in the case of mediate judgements it is sometimes possible to show that the relation they embody holds good by reference to other relations with which they are connected, or into which they may be analysed, this is not possible in the case of immediate judgements. The truth of some mediate judgements, that is to say, can be proved or disproved ; others remain doubtful. But the truth of immediate judgements can neither be disproved nor proved. It is impossible to demonstrate that, or why, a thing is itself and cannot be anything else ; or that, or why, this rose or this carnation smells sweet. In the former case there is no ' because ' to be given in answer to the question : " Why is it so ? " In the latter, all the answers to the 'Why ? ' are no more than general theories of causation to account for the fact, which themselves are based on the fact itself ; but there is no more possibility of demonstrating the fact than there is of demonstrating the principle. Both fact and principle are just seen to be so.

From the psychological point of view both sorts of immediate judgements, empirical and ideal, are in exactly the same case. Each consists in a known relation uniting two known terms ; or, in other words, in a fragment of knowledge in

which a relation stands out clearly. Both are affected with certainty and both, on reflection, are refractory to doubt. The certainty is inseparable, as we have seen, from the judgement; or, what is the same thing, from the clearness with which the relation between the items is apprehended. If we call the clearness of the triad of items and relation, considered as an objective fragment of knowledge, its evidence; and that same clearness, considered as a property of the Knower, his insight; evidence and insight will appear as the obverse and the reverse of one and the same thing.

The foregoing is not in reality so great a paradox or *tour de force* as it may at first sight appear. From the point of view we are taking, the solipsistic standpoint—that knowledge is mine, or yours, or his personal and incommunicable experience—knowledge and Knower clearly in some way are identified; are one. This point will best be illustrated by the knowledge (to be considered in detail later) one has of oneself. Knower and known are here identical. Not only do I know; I know that I know; or, as the experience might better be expressed, I know myself knowing. Similarly, when I recognise that a thing is itself, or that this rose smells sweet,

I know that this is my knowledge, and that in my knowledge it is so ; even if I believe at the same time that knowledge has reference to some extra-mental reality which as such never does and never can enter into knowledge at all. The Knower and his knowledge are one.

This consideration, which seems to be psychologically true and epistemologically justified, will point in advance to certain characters necessarily to be discovered in any possible criterion of truth which will justify certainty and be a warranty of science. Any criterion must be such that it is at once intrinsic both to knowledge and the Knower ; it must be immediate, or independent of anything other than itself ; and it must be objective, or discoverable within knowledge as an objective system of items and relations, and not imported from somewhere outside that system as a hypothetical condition upon which knowledge and truth are supposed to depend.

The clearness of a relation apprehended as obtaining between two objective items of knowledge, whether this be considered as evidence or as insight, in the last analysis is always the same in character. There are not different sorts, though there may be differing degrees of clearness. This

also is a psychological datum. Though clearness may be theoretically analysed into intensity of occurrence (or strength of insight) and determinateness of nature (or depth of insight), the same clearness which characterises the relation between the abstract terms or items of knowledge ' whole ' and ' part,' or ' A ' and ' not-A,' or ' cause ' and ' effect,' characterises also the relation between the concrete terms ' Phidias ' and ' the likeness of Phidias,' or ' this cup ' standing on ' this table,' or ' yesterday ' (taken as a collection of events) and ' to-day.' Accordingly, it cannot be on the basis of clearness that judgements are distinguished as mediate or immediate ; nor is it on this basis that they are distinguished as analytic and synthetic.

In a sense all judgements are synthetic ; since judgement essentially consists in assent to one item of knowledge being relationally synthesised with another. In logical terms a predicate is asserted (or denied) of a subject. Psychologically, this is no more than a statement of the apprehension of a relation between the two. But in explicit judgements there is always a preceding stage of analysis, in virtue of which such synthesis is possible. Predicates must *be* items, as well as subjects,

in order to be explicitly related. That is to say, in order that a relation should be apprehended the related items must be present in relative isolation one from the other. Thus, to form the judgement 'This paper is white' the items 'this paper' and 'white' must be held apart in order to be related; in order that a relation between them should be apprehended. The judgement may be a mere tautology; it may mean no more than 'This white (paper) is white.' None the less it presupposes a work of abstraction; and it brings explicitly to light the existence of a too little recognised and very important relation, that, namely, of constitution. Similarly, the judgement 'Two and two equal four' implies the relative isolation of its terms, and again may be a tautology; since (1 + 1) + (1 + 1) and (1 + 1 + 1 + 1) on each side of the equation are identical. But, again, it is the fruit of an abstractive process; and it is of no little service in mathematical operations. Judgements such as that the straight line is the shortest, or that contingence implies necessity, are of a similar kind; being analytic in the same sense that analysis of the notion 'straight line' or 'contingence' yields the predicates asserted of them. The analysis of items of knowledge, however,

which is presupposed by their synthesis in judgements, may either be a process which takes place at the moment the judgement is actually being made, or it may be one which has already occurred at some time previously to the present act of judging. In the first case, the items and relations are *hic et nunc* apprehended with insight ; as when the paper is judged to be white, or the principle of identity is asserted. The second case differs from this in that there may be no insightful apprehension whatever ; but one item (predicate) recalled from past experience or, as we shall see presently, educed from experience, is related to another presently experienced item (subject) in a judgement. An example of such a synthesis would be that a mass weighed a year ago at sea-level weighs to-day exactly the same on a mountain-top ; or that a stick immersed in water is straight, although in present visual empirical experience it certainly is bent. Similarly, a judgement that Smith is mortal, because Jones and Robinson have died, is an instance of relating the concept of mortality to Smith (a relation which is not intuitively clear) by recalling past experiences and relating them to present items of awareness. Such judgements may be

inaccurate, like those in which conclusions are wrongly derived from premises, through lack of insight and evidence ; depending, as they do, on subjective retentivity ; as when, for example, Smith is judged to be right-handed because all other past experience has been of right-handed people. In this way swans were supposed to be of necessity white, until black ones were discovered in the antipodes.

Items of knowledge, however, which can stand as logical predicates to logical subjects in judgements are not only limited to those which are, so to say, ' read off ' the subject item by abstraction when the judgement is actually being made, and those which are recoverable from the thesaurus of past abstractions. Were this so, all knowledge would be reduced to crude actual perceptual experience, together with the abstract aspects of it (including relations), to the potentially recoverable memories of concrete empirical experience and the conceptual abstractions originally derived from it and retained in the thesaurus. Possible knowledge would range over present and past experience only, so far as it was cognised. It would include perceptual ' wholes ' (elementary items in relation) and the elementary

items and relations analysable out of these 'wholes'; and it could never by a hair's breadth exceed the limits set by perception. It is true that 'imagination' might further come into play, in the sense that items abstracted from empirical experience might be fancifully related in ways in which they had not been presented in experience, and were not perhaps even verifiable by reference to empirical experience. Thus 'golden mountain' and 'centaur' are certainly 'wholes' possible to imagine; and it would be possible to form the judgement that centaurs inhabit mountains of gold. But neither items nor relation would be believed; for they are neither presented in empirical reality nor verified by it. There are many judgements, however, which while not presented nor verified experientially, might be so. Indeed, in some cases it is difficult to be certain whether or not they have. Many dreams, in which both 'wholes' and the relations between them are slightly distorted furnish a good illustration in point; for normal dreaming, very similar as a psychological process to perception, consists in the more or less fanciful relating of more or less fanciful items which might always be considered to be within

the realm of possible verification in empirical reality. But none of these judgements takes us one step beyond what has been empirically experienced. All they do is to divide and combine the items, concrete or abstract, of that experience in various possible or impossible ways.

It is often claimed that scientific ' imagination ' oversteps these limits ; and so indeed it does, for the world of scientific reality is certainly not the world of empirical experience. Forces, atoms, electrons, vibrations, are not the green grass and the painted flowers of spring-time, gentle warmth and filmy clouds crossing the blue vault of the sky.

Headaches and toothaches are not chemical processes going on in bodily tissue ; nor are fear nor anger nor love changes in endocrine secretions with their antecedent and consequent alterations in the character of nervous process. In the physical sciences Nature is presented to us as a system in which there are no colours or sounds, no temperatures or odours, no sapidities or roughnesses or smoothnesses or anything else that constitutes the world of empirical experience ; except possibly extension and movement. Indeed, in some of the explanations of Nature

even these are omitted; and the reality which is held to account for our empirical experience is presented to us as consisting of no more than forces acting at points. Similarly, the biological sciences give a like account of that class of phenomena with which they are occupied. Sensation at least, for many physiologists, *is* nervous process; mind is a by-product, or an aspect of organised matter; and conscious organisms, when fully analysed, yield only chemical or physical elements, and thus fall in line with the mechanical scheme of the rest of Nature as a whole.

Now, this world—the world of scientific reality—is clearly not the world of immediate empirical experience; and, as such, it cannot be found therein; though it may be constructed from it, and the manner of its construction accounted for by psychological laws. While, in empirical experience there occur 'wholes'—extended, resisting, coloured, sapid, odorous (and the like) 'wholes,' called bodies—which on analysis yield items such as extensity, resistance, movement, colour, sapidity, and so on, inter-related in various ways, together with the relations uniting these items; we do not find in that experience atoms or

electrons, the minute undulations which (in the vibratory theory) constitute light or heat, forces, causes, substances, or anything of the kind. How, then, do these notions of science arise? For they certainly form, rightly or wrongly, part of the furniture of the scientific mind. They are items in the system of scientific knowledge. The most obvious answer to the question would seem to be that they are in some way extracted from empirical reality as occurring in experience. But these notions or items of science would further seem to fall into two classes: a first class which might be assigned to the operation of 'imagination,' in the sense that it contains only items or notions which can be pictured; which are the replicas, on an indefinitely small scale, of what actually does occur in experience. Thus molecules or atoms are no more than masses pictured as indefinitely small, so that further division would break them up into elements or destroy them altogether. Heat and light vibrations are infinitesimally small periodic movements similar to, say, the empirically experienced movements of a pendulum. A very considerable number of items constituting the world of science is of this kind; derived by abstraction from the very same objec-

tive empirical 'wholes' they purport to explain. The second class of scientific notions consists of those which are not, in strict terms, imaginable, but only thinkable. Such notions as force, cause, substance, are not in truth to be derived from the empirical experience of the objects which constitute 'the world,' in contradistinction to the Self; for abstraction can only take out of those objects what is already in them. And in the empirical world of phenomena there is no evidence of (and no insight into) such an item as we mean when we say 'cause.' There is only evidence of (and insight into) the succession of phenomena. Similarly for force, substance, and a great number of other concepts. We conceive of one body exerting itself upon another; we conceive of something which is neither quality nor quantity nor relation, and so on; something which is in itself and not in some other thing, as we conceive forces, substances, and the like, to be. We cannot picture or imagine any one of these items, but we certainly can, and do, think them; for they occur as parts or items of the objective system of knowledge. We have no objective empirical acquaintance with them, since they are not found in empirical experience of 'the world.'

From whence do they come, and how do they arise ?

Until recent years psychology had no answer to this question except along the general lines of the associationistic theory. According to this theory, 'consciousness,' with which alone it was competent for the psychologist to deal, consisted in aggregates of impressions and ideas 'associated' together in various ways. Ideas were the fainter copies of impressions; so that, in a final analysis, consciousness could be reduced to aggregates of elementary impressions, commonly known as sensations. Now, it is a fact of introspection that a 'sensation' never occurs in an isolated fashion. The elements out of which the 'consciousness' of the associationists was built up are not *de facto* given as such in empirical experience; but are abstractions practised upon it. Indeed, the associationist conception of consciousness—and especially the atomic or mosaic version of it—seems to have been an unacknowledged importation into psychology of a contemporaneous current conception of the physical structure of matter. Consciousness was reconstructed on the analogy of the atomic theory; which, as has been indicated, is both a thinkable and even imaginable hypothesis

to account for empirical reality; but in no sense *is* that reality. Thus the notions or concepts of physical science, the origin and validity of which as items of knowledge have to be accounted for, were re-imported into psychology in order to account for the nature of knowledge itself. The abstract elements of knowledge thus seemed to be explained; they were actually given in various combinations in empirical reality; and could be thought of as separated and recombined in other ways.

What was not so explicitly developed in Associationism, though it formed in reality the core of the whole doctrine, was the part that relations have to play in the associative combinations. The 'laws of association,' which had their origin in consideration of and reflection upon the 'wholes' of empirical experience and their successions in thought, were based upon the relations of contiguity and similarity obtaining between those 'wholes.' The sight of his harp is followed by the thought of the player; the portrait 'recalls' the sitter. An application of these laws as derived from 'wholes' to the abstract elements of the 'wholes' themselves would, it was held, account for perception. A

set of impressions occurring (say, the sight of an object) would revive and associate to itself ideas of other qualities which formerly had been experienced with it. Thus an object seen would be perceived (seen) as heavy, resistant, cold, odorous, or the like. The importance of relations was recognised as in some way cementing impressions and ideas together, and in accounting for their succession in the stream of consciousness. But the whole range of relation was not investigated. Resemblance and contiguity—often contiguity alone—were stressed at the expense of all the other kinds of relation which are indisputably discoverable on introspection. Subsequent and finer analysis has brought to light a large number of relations which were overlooked; and has shown, as in the experimental work on Controlled Association, the exceedingly important part they play in mental life. None the less, the abstract elements (impressions and ideas) of associationism, together with the many kinds of relation of which we can now give some account, do not permit us by mere rearrangement of them to transgress the limits of empirical experience. These elements and these relations are mere abstracts of empirical reality, mentally held apart, though in reality

not occurring apart in it ; and so long as ' wholes ' just occur, and abstraction only is practised upon them, we have put nothing in that we have not actually found there.

Elementary sensations, then, and abstract relations may be a condition of further knowledge ; but they do not and cannot constitute of themselves all knowledge. Some further law than those of association is necessary in order to account for the items of knowledge which incontestably occur, and yet are not discoverable as such within empirical reality.

Such a law has recently been formulated as the result of extensive work upon the so-called " intelligence tests." These tests, it has been found, measure a mental ability or power which is manifested in three ways. The first of these manifestations of ' intelligence ' is the apprehension of the characters of experience itself. This is due to a principle which accounts for the fact that any empirical experience whatever is or can be known. It summarises the transition from lived experience to knowledge. The second is the definite awareness of relations of several kinds as obtaining between aspects of experience ; a fact which was strangely neglected by the associa-

tionists despite their insistence upon the reproductive function of the relations of contiguity and similarity. Though the laws of association were formulated by the associationistic school as, jointly with impressions and ideas, the fundamental explanation of all mental events and all conscious life, that school never attempted to state a law in virtue of which we become aware of relations in the first instance. The third, an even more striking psychological discovery and of the most far-reaching importance, is the occurrence in knowledge of items which have never been empirically experienced at all. This manifestation of 'intelligence' needs some explanation; its explanation lies in the principle of 'correlate-eduction.'

Stated without reference to associationism, the matter may be developed as follows.

'Wholes' occur as items of knowledge, as objects of empirical experience. Abstract elements and relations of these 'wholes' can be thought; and accordingly are also (abstract) items of knowledge. These facts were already recognised. But what, until recently, was not recognised was that, if an abstract relation *of any kind* is applied to any other item (element

or relation) within knowledge, there is a tendency for a correlated item, *not necessarily ever previously having been apprehended in empirical reality*, to occur consciously. Put in another way: If one thinks any item whatever ('whole,' element or relation) together with any relation, there is a tendency for him to think some other item which may not be derived from any, and may even be contrary to all, of his present and previous empirical experience. This is a statement of Spearman's third noegenetic principle.[1]

[1] The following are the three nœgenetic principles as originally formulated by Spearman (*The Nature of Intelligence and the Principles of Cognition*, Macmillan & Co., 1923), together with examples showing the noetic and generative character of each. They comprise all mental operations which are at the same time self-evidently valid cognitive transitions as well as accounting for the original production of items of knowledge as distinguished from reproductions.

1. "Any lived experience tends to evoke immediately a knowing of its characters and experiencer." Thus we become aware, or tend to become aware, of the quality, intensity, extensity and duration of sensory data, of the hedonic character of affections, of the phenomena of conation and volition, and the like, together with the Ego as the conscious experiencer of all these.

2. "The mentally presenting of any two or more characters (simple or complex) tends to evoke immediately a knowing of relation between them." Thus one tends to perceive, for example, likeness or unlikeness between colours, tones, tastes,

It is hardly necessary to refer to the fact that the law in question was not reached by adopting the solipsistic standpoint which we are here adopting. It was generalised from the results of observation and experiment in the ordinary way in which scientific laws are established. But the fact does not preclude us from taking up the attitude of solipsism in a methodical fashion; for each one of us can verify the law within his own experience. An item and a relation occurring in knowledge, the correlated item (which may be entirely original, and overpass the limits of both

images, thoughts, affections—indeed, between any items of knowledge severally present to the mind. So also temporal, spatial, causal, and other relations tend to come to mind as mediating between their fundaments or terms.

3. "The presenting of any character together with any relation tends to evoke immediately a knowing of the correlative character." Thus one tends to think or imagine, say, a line half the length of a given line if the relation 'half' be in his mind; or a tone, say, a third higher than a given tone if that relation be mentally present also. Thus, again, as is evident in the performance of "intelligence tests," given relations applied to given fundaments in thought generate correlated fundaments; as in "The opposite to good is . . . ," "Now is to then as here is to . . . ," "Cloth is to scissors as steel is to . . ."

Though in the case of the actual examples given reproductive processes may be involved as well, so far as this is so they fall short of exemplifying true noegenesis. It should, however, be noted that in the first instance of their occurrence the processes were wholly noegenetic and in no sense reproductions.

actual and possible empirical experience) tends to occur as an item of knowledge.

In virtue of this law we can give an account of the 'scientific imagination,' whether its results are in truth imaginable or not at all imaginable but only thinkable. Relations of quantity, as less and least, together with the relation of opposition as applied to divisibility, applied to the masses of empirical reality, generate the notion of the atom. Concepts such as that of the ether, of atmospheric and etheric undulations, of mathematical points and surfaces, and the like, are reached in a similar way. We have no empirical experience of such entities; none the less they enter into knowledge, and carry us beyond empirical reality.

Again, though there may be the apprehension of succession only of phenomena in our empirical experience of the 'material world,' and not of causality or true forces, the relation of causality, derived from elsewhere than from that part of empirical knowledge which constitutes the 'material world,' can be applied to it in such a way that mere succession with quantitative equivalence becomes invested with causal efficiency and effective production. We certainly do think

of objects as true causes and effects, even if it be said that empirical experience alone gives us no justification for doing so; and we endow our 'world' with forces though we may have no empirical evidence nor intuition of these.

Naturally, the haphazard application of abstract relations to items of knowledge in order to generate correlated items, though it might always be effective, is not here advocated as a method of invariably attaining truth. Chimerical results would be as likely to follow from it as valid ones. As we shall see in a subsequent chapter,[1] the test of such notions as the process of 'correlate induction' yields, is that they should agree with empirical reality and not contradict it; which is only to say that scientific —or, for the matter of that, any—hypothesis can only be verified by reference to experience. What it is here intended to emphasise is that we have a psychological means of franchising the boundaries of empirical experience; and that our concepts need not be merely the syntheses of abstract aspects of it.

Transcendental items of knowledge reached in this way, however, are neither true nor false,

[1] *Vide infra*, pp. 93, *sqq*.

any more than are percepts, sensations or concepts considered as unrelated to anything else than themselves; and, like concepts, percepts and sensations can only be affected with certainty or doubt when they are apprehended as standing in some relation to another term or item of knowledge; that is, when they enter into judgements. Thus, to take an example, the application of the relation of contradiction to the notion 'being' generates the correlated notion 'not-being' (which cannot be an item of empirical experience); and, so long as this remains merely a notion, it is simply an item occurring in, or an event of, knowledge. We can think it, and indeed do, with neither certainty nor doubt, and as neither true nor false. But if, relating this transcendental notion to that of 'being,' we should judge that it exists, or that it is like 'being,' certainty that this is not so at once arises; the judgement is false. In other words, the relation between the transcendental notion reached by way of correlates and the abstract notion found in empirical reality lacks evidence and insight. A 'being' is not a 'not-being.'

Consider, however, another example of the working of the same principle. From the

empirical 'whole' item of knowledge 'calf' and the relation 'in some respects duplicated' it is possible that the correlated item 'double-headed calf' should spring. This, again, is neither true nor false in itself; and there can be no doubt nor certainty with regard to it. But let it be related existentially to empirical reality in the judgement 'Double-headed calves exist,' and doubt arises as to the truth of the proposition until empirical reality furnishes an example of the fact. By such a process, for example, did Pasteur demonstrate that putrefaction and fermentation were due to microbes, and that abiogenesis does not occur.

But there are many cases lying between the examples just given in which, while we may believe that the relation between the terms of the judgement might be immediately verified by reference to empirical reality, we have no evidence or insight of its being so verified. And there are also cases in which neither have we immediate evidence nor insight, nor can we suppose any verification of this sort being possible upon reference to empirical reality. From the very nature of the cases in question the supposition is impossible; since one of the terms of

such judgements, reached by correlate-eduction from experience, may, as we have seen, not only not be derived by abstraction from empirical experience, but may even be contrary to it in its every character. A case in point is 'not-being,' to which reference has just been made. This last class of cases is of the greatest possible interest, and has provided the secular battle-ground for opposing systems of philosophy. Notions such as those of absolute not-being and becoming, of necessity and fate, of immortality and God—to take but samples of them—are not given as occurring in empirical experience; yet they are undoubtedly notions which do occur; and the controversies with regard to them constitute a large part of the history of philosophy. We are not concerned here with the existence or nature of any extra-mental realities which may or may not correspond to these notions. We are concerned only with the notions themselves; and, indeed, only with them in so far as they form part of the items or elements of knowledge in an individual consciousness.

Consider, for example, the idea 'necessary being,' which is not discoverable within the range of empirical reality. Whence does it arise?

A psychological account of its origin is provided in the foregoing paragraphs; it is the product of the relation of 'opposition' being applied to the notion of 'contingency.' The opposite to the 'contingent' is the 'necessary.' Within the system of knowledge, apart from any reference to extra-mental reality, the Anselmian notion of God—"a being than which no greater can be thought"—with the consequent inclusion of actual existence in the notion—has its perfectly legitimate place; as have also such notions as those of fate, destiny, immortality and the like. These and other such notions are reached by the spontaneous process of correlate-induction. One might even go so far as to say that, within the system of knowledge, the notion of a 'necessary being,' or of a being than which no greater is thinkable, is necessitated by the notion of a 'contingent' being, not only as to its notional occurrence (which is indisputable), but even as to its explanatory function. The 'necessary' is presumed by the 'contingent.' It must not be forgotten, however, that this presumption is itself within the system of knowledge; and, at the point we have reached cannot be said yet to refer to extra-mental reality in any way.

Anselm and Descartes may have been wrong in passing from the ideal to the real order in asserting that God exists because they had an idea of a being whose nature included existence. But they were not wrong in asserting that the idea in question occurred. Likewise, it may be wrong to assert the transcendental, the extra-mental existence of anything whatever. But, within the system of knowledge, the notion of necessity once having been reached in the manner set forth, the relation between the two fundaments ('contingent,' 'necessary') is immediately apprehended as being that of 'causality' or of 'sufficient reason'; and this with insight.

This very notion of God is instructive. Unlike the popular anthropomorphic conception, almost wholly devoid of content, far removed from any pressing scientific interest, and unverifiable by any direct reference to empirical reality,[1] it is one of the best instances of the results of the principle we are at present discussing. For the notion, and even the certainty or belief in the existence of a

[1] The hypothesis even that God has at least the same degree of reality as this cannot be proved, in the sense of being shown, by methods of agreement, difference, concomitant variation, etc., to be in accordance with it.

deity appears to be practically universal. Those who deny the real existence of 'God' at least have a concept of that which they are denying. What they deny is that the concept accords with any extra-mental reality that can be the object of scientific knowledge. The notion, then, certainly occurs. It goes beyond all actual and possible empirical experience. And the various historical arguments that have been advanced to prove or disprove the existence of 'God' on grounds of necessity, perfection, causality, morality, and the like are all *ex post facto* rationalisations to account for the occurrence of the notion. At the present stage of our exposition it is not necessary to do more than to point this out.

We have thus, psychologically, several ways of accounting for the occurrence in knowledge of concepts or notions, some of which do not take us beyond the range of empirical experience while others enable us to transcend it. In the following chapter these concepts will be examined in order to discover what their truth-value may be in relation to empirical reality.

THE WORLD OF IDEAL REALITY

CHAPTER III

THE WORLD OF IDEAL REALITY

Percipimus nos abstrahere formas universales a conditionibus particularibus.—AQUINAS, *Summa Theol.*, 1ª 2ᵉ, Q.79, a. 4, c.

A DISTINCTION was drawn in the last chapter between known (apprehended) experience, the related items of which constitute the world of empirical reality, and the abstract constructions and inferences from that experience which, being conceptual in character, constitute the world of ideal reality. These constructions and inferences, as we saw, are reached in several ways; either by mere abstraction and recombination of abstracts, or by a process of transcendental inference which has been called by its discoverer the "eduction of correlates." The processes of abstracting and recombining abstracts give rise to notions or concepts which, since they were already implicitly contained in it, may properly be said to be educed from empirical experience. On the other hand, the process of correlate-eduction, while it

may sometimes give rise to concepts which could have been reached by recombination of abstracts educed from experience, may also take us beyond the range of empirical reality whether actual or possible; and, besides providing us with concrete objects of thought, may also yield abstract notions or concepts which properly cannot be said to be educed, but rather induced or produced from it.

The distinction is so important that the utmost clearness is desirable in its regard; and since clear definition of terms seems to be the only way of reaching clear understanding of the distinction itself and of its implications, the reader will indulgently permit me to define as exactly as possible what I mean by the terms I propose to use. Psychological terms are especially apt to be ambiguous and misleading, since in their long history they have collected around themselves so many shades of connotation from philosophical and scientific as well as from popular usage. Accordingly, since this essay is an attempt to reach reality from the initial standpoint of psychology, we must at least know what we mean by the terms to be employed.

In this connection, the most important terms

have reference to forms of cognition. It will, I think, be generally agreed that we may appropriately speak of acts of cognition and products of such acts; as, for example, of sensing and sensations; of perceiving and percepts; of judging and judgements, and the like. Now, I take it that every cognitive act has a product; indeed, that it is by means of the mental occurrence of the product alone that we know the character of the act. Accordingly, I shall define my terms by reference to mental products.

In the first place, by an analysis of a percept, we shall be able to define it as the product of a complex act of perception. I begin with the percept because, though it is not a simple mental object (i.e. refractory to analysis), it is at once the most obvious and impressive of all. "Seeing is believing." A percept I take to be a presently apprehended sensory experience. But it is more than this, for it includes also much supplementation from past experience. A block of ice is a percept. I perceive it as faintly bluish-white, translucent and rectangular; as heavy, cold and slippery to the touch; as brittle, melting and the like. I perceive it thus; but I do not feel it thus. What I feel (see) is a faintly bluish-white,

translucent rectangle or quadrilateral. The percept contains much more than I feel; it includes other reproduced elements, and what I shall call educts and correlates (or inducts) from past known experience as well; and these, together with the core of present feeling, constitute it as a percept. Stripped of all these inclusions, the perceptual core might appropriately be called an apprehend. I propose, accordingly, to use the term 'apprehend' to designate the actual and presently sensed core of a percept; and the term 'percept' to mean this core together with all its supplementation by previously experienced elements, relations and correlates. Since, as I shall go on to define them, these latter are not necessarily sensorial (imaginal) but may be conceptual in character also; and since conceptual relations and correlates alone give meaning to percepts; a percept must be considered to be partially a conceptual and partially a sensorial construct; whereas an apprehend will be entirely sensorial and discoverable in actual empirical experience.

The foregoing analysis of a percept, with which in the main, I believe, there will be little disagreement on the part of psychologists, has led

us to what I have termed educts and correlates or inducts. These, in their turn, must be defined.

It was commonly held in the old associationist psychology that percepts consisted of apprehends supplemented by images recalled *telles quelles* from past experience. But it has since been demonstrated that this view is entirely inadequate to the facts. When images enter into percepts as part of the supplementation of the apprehend, they fit or are adapted to it; and there are innumerable cases in which it is impossible to suppose that any image (which, after all, is a more or less exact, though possibly exceedingly faint copy of a previously experienced impression) can be recalled which will fit or be adapted to the new apprehend. What in reality happens in this case is that new sensorial items, analogous to but not, even as a copy, identical with the old experience, enter into the constitution of the percept. And this process, when it occurs, is precisely similar to that in which an abstract, non-sensorial supplementation of the apprehend takes place in perception.

The two cases indicated—that of sensorial and of conceptual supplementation — are examples of correlates entering into the constitution of

percepts. The supplement in the one case is a concrete image, in the other an abstract concept.

Before defining correlates, however, it will be convenient to consider abstract educts; since the former are causally dependent upon the latter.

Like correlates, educts may be concrete or abstract; sensorial or conceptual. Beginning again with an analysis of any percept and pursuing it still further, we reach the simplest kind of apprehend—a coloured triangle, say, or a tone of given pitch and intensity. These are apprehended *as* coloured triangle or intense high tone. That is to say, they are apprehended as colour related to shape or intensity related to pitch. The relation, however, is not at this stage manifest; it does not constitute a knowledge *that* colour is related to triangularity, or pitch to intensity. Nevertheless, even in the *as* kind of apprehension, both the relation and each of the fundaments may tend to be concretely ' drawn out ' from its setting; while in the *that* kind of knowledge, both fundaments and relation may be abstractly ' drawn out ' from the apprehend. In the illustrations given we have considered apprehends of the simplest possible complexity, consisting merely

of two elementary items and the relation of constitution between them. For this very reason, perhaps, the examples are difficult ones to grasp. A quite similar illustration, however, which may help to make matters clear, can be borrowed from perception. Two percepts—a red triangle, say, and a red circle—may be perceived *as* similar in respect of redness; and the colour (red) and the relation (similar) may tend to be 'drawn out' and held in relative isolation within the complex. Both colour and relation, however, still remain sensorial and concrete. This I should call sensorial abstraction; and it is possible only because the relation has come to awareness in virtue of the second principle of cognition. It is this and that particular red and this particular relation between them that are concerned in such knowing; and not redness or similarity in general. It is when we reach the higher stage of knowing *that* the relation of similarity, in respect of colour, obtains between the triangle and the circle that the relation is or can be abstractly 'drawn out,' thought separately, and therefore given a name. 'Similarity' is a conceptual, not a sensorial, object of thought; just as are 'triangularity,' 'redness,' or the like. Moreover, while the concrete relations

are characterised by the particular fundaments which they mediate, the abstract relations are not. The concrete relation between this red triangle and this red circle is this similarity in respect of these colours. Similarly, the concrete relation between this tone or odour and that one is this similarity in respect of these tones or odours. But the abstract relations, as ' similarity,' are characterised by no particular fundaments. ' Similarity,' as an object of conceptual thought, is identical with itself, whether it mediate colours, tones, odours, or anything else in empirical experience. And this is so of all conceptual relations.

The importance of the fact lies in this, that it is only by means of applying an abstract relation to a fundament, whether abstract or concrete, that a correlated fundament is induced. Thus it is the relation of ' opposition ' in general, and not this opposition between (say) this long and this short line, or this light and this heavy object, that allows us mentally to reach ' black ' from ' white,' or ' after ' from ' before.'

In the present chapter we shall not be directly occupied with the *as* kind of apprehension, nor with the imaginal sort of supplementation ;

but with the *that* kind of knowledge and the conceptual sort of supplementation. We are concerned here to discuss objects of the ideal order, not of the empirical; and in any discussion of ideal reality concepts, not percepts nor apprehends, hold the first place.

Dependently upon the foregoing analysis, accordingly, and prescinding from items and relations of the empirical or sensorial order, I propose to define an abstract item of knowledge as the product of an act of abstraction; and by this term I mean to cover any and every sort of elementary experience and character, including relations (educts), which can be thought or conceived separately in and by itself. As we have seen, all such elements are derived—'drawn out'—by abstraction from empirical experience; and, since they were there already to be 'drawn out' from it, they do not carry us beyond the range or scope of empirical reality, though they provide much of the material out of which ideal reality is constructed.

Abstract mental items, further, enter into constitutive relations with each other to form what I shall call—again prescinding from concrete sensorial analogues—conceptual constructs. Just

as such items themselves are the results of abstractive analysis, conceptual constructs are the outcome of the synthesis of abstract items. They consist in several of these related together in a notion or concept. Thus it is possible to think (though not to imagine) redness of a given hue without extensity, circularity of a given radius without colour, and the relation of constitution without fundaments. These would be simple abstracts, elements and educts. It is, further, possible to think these abstracts together as a type red circle of given radius which may or may not be verifiable in possible empirical experience. In this way a very large class of our concepts is substantially accounted for; but not all.[1] For there remain other concepts, similar in nature to simple abstract elements, educed relations and conceptual constructs, which are not 'drawn out' from empirical experience, but inferred from it by quite another procedure: that, namely, of correlate-induction

[1] It might be argued that such 'constructs' are in fact correlates; and, indeed, in the opinion of the writer some, if not most of them are. But he also is of the opinion that at least some conceptual constructs are not the products of correlate induction, but simply the results of putting abstract items (elements and relations) together.

developed in the last chapter. These I propose to designate as abstract correlates; and by this term I intend to cover all thought entities (i.e. objects of conceptual thought) other than apprehends, abstract mental elements and educts (relations), and constructs as such. It will be clear that in the definition just given I am again prescinding from sensorial correlates, which may by an entirely similar process be derived from empirical experience, though not conceptually abstracted from it.

With regard to the appropriateness of all the terms suggested, it should be pointed out that they are intended to have no logical connotation, but a strictly psychological one. Percept has already a recognised place in psychology; and apprehend, if we do not at this juncture read into it epistemological significance, seems acceptable enough. Educt means literally that which is (concretely or abstractly) 'drawn out' from empirical experience; a fact which has been sufficiently emphasised by the repetition of the expression. Construct stresses the fact of complex relatedness in many of the notions or concepts the elements of which are discoverable in experience. Correlate (induct) may more

readily give rise to misunderstanding; but if we conceive it somewhat on the analogy of an induced electric current in comparison with the primary, it would seem to be the most appropriate term to signify the product of correlate-finding.

In summary, apprehends are sensorial mental products and are discoverable as such in empirical experience; percepts are partially sensorial and partially conceptual; abstract elements and educts (relations), together with abstract constructs and correlates are conceptual, the simple items and constructs being discovered in empirical experience, correlates being derived from it. Apprehends and percepts (in so far as these have character as apprehends) are 'things' (i.e. concrete objects of a 'real' order); abstract elements, educts (relations) constructs and correlates are 'thoughts' (i.e. objects of an 'ideal' order).

Apprehends, percepts (except in so far as they may include correlates), simple elements, relations and constructs are 'materially' contained in empirical experience, are derived from it, and do not carry us beyond the range of empirical reality. Correlates, however, may be transcen-

dental to all empirical experience whatever, whether actual or possible.

In the present chapter we are to examine simple abstracts (elements and educts), constructs and correlates (i.e. products of thinking as contrasted with products of apprehending) with a view to solving the problem of their objective reality or unreality. As has already been noted, we can only speak of truth in connection with judgements ; certainty can only be treated in connection with the judgements with which it is associated, in regard to which it arises. And judgements consist essentially in the synthesis of two mental items by means of a relation ; it is the more or less clear emergence of the relevance of the relation to the items related that engenders certainty ; it is in the equation between the related terms that truth consists. But one of the items of knowledge (that which stands in the place of the predicate in a verbally expressed judgement) is always an item of a conceptual character ; an abstract whether simple, or a construct, or a correlate. And also in many cases both the related items (subject and predicate) are conceptual ; they are not ' things ' but

'thoughts.' The problem here has nothing to do with the extra-mental existence either of 'thoughts' or of 'things,' but centres merely upon their objective reality within knowledge. What is the reality of a 'thought' (simple abstract, construct or correlate) compared with that of a 'thing' (apprehend or, in so far as characteristically apprehend, percept)?

This problem must be divided into three separate parts for solution.

In so far as simple abstracts, whether elements or educed relations are in question, their reality is precisely that of the apprehends from which they are derived. They are materially contained in them already; and the fact that they have been formally abstracted in no way alters their nature. The abstracts 'red,' or 'hot,' or 'one,' or 'fear,' or 'like,' or 'equal to,' to take several instances, are drawn out as they are from empirical experience, with the sole exception that their concrete relatedness in any particular experience is neglected. But this neglect does not falsify them or make them less real; any more than it makes a cup less real or falsifies it when it is considered in itself and not, as it is here and now in empirical reality, standing in its saucer upon the table.

The sole positive proof of the objective reality of such abstract mental items lies in introspection. Nothing is added to or taken away from the nature of a mental item like 'red' or 'similar' when it is abstracted from its setting in experience. It is still 'red' of a definite hue and saturation; still 'similar' in point of visual or other quality; still 'equal to' or the like in point of quantity. Such difference as may lie between the apprehends 'red' or 'similar' and the abstract items in question is—to use a scholastic distinction—that the former are materially, while the latter are formally cognised.

But all abstract items do not conform so closely to empirical experience as these. Further steps in abstraction are taken which bring us to those like 'red' of no definite hue or saturation; to 'colour,' including all blues and greens and yellows with all reds; to 'sensation,' in which tones, odours, sapidities and so on are included with colours. These also are mental objects which we cannot image but certainly do think and to which we give names. Though clearly more abstract, their reality is precisely the same as that of the less abstract mental items already considered. Introspection warrants the assertion that they also

are 'drawn out' from empirical experience. The abstract mental objects 'colour' or 'sensation,' like 'red' or 'red of definite hue,' etc., are insightfully cognised as identical with aspects of empirical reality. They are formally ideal, materially empirical.

A similar progress in abstraction takes place with regard to educed relations. A relation of similarity between two definite reds is insightfully cognised as similar to or identical with a relation of similarity between two definite greens; similarities between colours are known as identical with similarities between other kinds of sensations, as well as between relations themselves. We can as well grasp a similarity between two relations of similarity (or of dissimilarity) as between two 'reds' of definite hue; and we can think the very abstract mental object 'relation,' and speak of it, just as well as we can think, and speak of, 'sensation.' Here again introspection warrants the statement that these highly abstract educts are aspects of empirical reality; materially contained in it, though formally conceptual and ideal.

The reality of all such abstract objects accordingly, is fundamentally that of the empirical reality

in which they are discovered, and from which they are abstracted.

Not all predicates of judgements, however, are simple abstract mental items of this sort. We not only, for example, insightfully cognise the relation expressed in such a judgement as 'This triangle is red,' thereby asserting an identity between an abstract object and a concrete bit of empirical experience. We also make such judgements as 'Peter is a man,' 'A man is an animal'; thereby in certain respects identifying what we have agreed to call constructs either with concrete 'wholes' of empirical experience or with other constructs. What is the objective reality of these constructs?

It need scarcely be emphasised again that here there is still no question of extra-mental reality; no problem as to whether or not mental constructs correspond to anything transcendental to themselves and to the empirical experiences from which they are derived. The objective reality or unreality of ideal constructs cannot be established by reference to a reality of which by the very nature of the problem we have, and can have, no immediate knowledge. It can only be established by reference to the em-

pirical reality which is part of the structure of knowledge.

By definition, ideal constructs are constituted of abstract elements related together in a notion or concept. And since, as we have seen, relations are themselves experiential items, every item entering into the constitution of a construct has the same reality as has empirical experience itself. Each, though formally ideal, is materially experiential. Accordingly, all ideal constructs without exception share in a sense the objective reality of empirical experience. Ideal constructs like 'centaur,' 'hippogriff' or 'square circle' are in respect of their constitutive items as objectively real mental objects as 'man,' 'animal' or 'square' are. Like fantastic constructs of imagination, and as objects thought whether clothed with imagery or not, the contents of dreams have precisely the same sort of reality as the contents of perception or apprehension. The hallucinations and conceptual beliefs of the madman are as objectively real for him as the most sober visions and ideals of the sane. The obvious objection that centaurs and hippogriffs do not exist while men and animals do, that no one believes dreams to have the reality of perceptions, that hallucinations and

the beliefs of madmen are most unreal, would miss the point. It would be considering these ideal constructs (as well as the concrete ones) not in themselves and simply as constructs, but as related to some other term ; it would, in other words, be introducing them as items into judgements. In themselves they are neither true nor false ; but as objects thought they are objective, and their reality is based upon that of empirical experience. To assert that they exist, or even that they square with empirical experience, is quite another matter.

None the less, since we always tend to consider them in relation to some other item (if even only to the notion of ' existence '), the question of truth in their regard is as a matter of fact obsessive. It does not satisfy our need to say that all ideal constructs are in the same case as far as objective reality is concerned. Accordingly at the expense of anticipating what is to be discussed in a subsequent chapter, a word may perhaps be said here as to the ' truth,' within the system of knowledge, of these constructs.

As we have seen, a mental item can only be said to be explicitly ' true ' in so far as it is compared, by means of a relation, with some other item

in a judgement. What is that other item with which constructs must be related in order to say that they are 'true' or 'untrue'? Clearly nothing else than either another construct or an apprehend. But, since the validity of any other ideal construct, in point of truth, depends upon its identity with (though not its adequacy to) an apprehend, ultimately that other item with which an ideal construct must be related in order insightfully to be cognised as 'true' or 'false' must be an apprehend. I take 'truth' here provisionally to mean the equation between the constructs and the empirical experience.[1] In this sense, ideal constructs, since they are ideal 'wholes,' must concord with apprehended 'wholes.' And this relation of concordance or, from a certain point of view, identity, is insightfully cognised as obtaining between at least many ideal constructs and concrete apprehended 'wholes,' in exactly the same way as an identity may be cognised between a simple abstract (element or educed relation) and a concrete item. Consider, for instance, a simple case, such as that of the ideal construct 'coloured triangle.' When analysed, it is found to consist of the abstract items 'colour,' 'triangularity' and

[1] *Vide infra*, Chapter VII.

'constitution.' But this concrete red colour, this concrete right-angled triangle of definite dimension, this particular relation of constitution between them, within empirical experience itself, verify the construct. We can point to the empirical reality and say: "There is a case of it." The apprehend justifies the construct; the reality of the one is evidentially identical with (though not adequate to) the reality of the other. The ideal construct is 'true' because it concords with the apprehend; and the apprehend, conversely, is 'true' in so far as it concords with the construct. And this we know insightfully.

It might be objected that such a process of verification can never *de facto* take place, since the abstract 'triangularity' which enters into the constitution of the construct 'coloured triangle' is really 'perfect triangularity'; and this can never be discovered in empirical experience. Not experience, but thought only, yields the 'perfect triangle'; the ideal construct cannot therefore be constituted of simple abstract elements and relations, since 'perfect triangle' never occurred in empirical experience in order to be 'drawn out' from it.

And this may, indeed must, be granted.

'Perfect triangularity' is not an abstract found in, but a correlate induced from, empirical experience. Nevertheless, the objection does not affect the argument, in which we are dealing, not with mathematical notions, but with unsophisticated ones. What we call a triangle is a bit of empirical reality; and the abstract triangle 'drawn out' therefrom is an ideal version of one and the same thing. The construct 'coloured triangle,' abstracting from individual particularities, is, as far as it goes, identical with any concrete coloured triangle of empirical experience. The proof, again, is and can only be an appeal to introspection and insight.

The characters of the simple case just considered are no whit altered in essence when it becomes more complex. Just as we can bring the abstract construct 'coloured triangle' into relation with a coloured triangle of empirical experience in order to cognise their fundamental identity; so we can bring the abstract construct 'man' or 'animal,' or 'chimera' or 'square circle,' into relation with empirical experience, and thereby cognise their fundamental identity, or lack of identity, or contradiction, with it. When I say: "This bit of empirical reality, which I call Peter, is a man," I cognise identity; and if I

say: "Man exists, because Peter exists," I am asserting the real actuality of man because of that of Peter. But I cannot thus relate 'chimera' or 'square circle' to any known apprehend or empirical reality. There is nothing, therefore, by reason of which I may say that either the one or the other is real in the sense of being true; though the reality and the truth of the abstract elements and relations constituting these constructs are guaranteed by the fact that they do exist concretely in empirical reality. It is, of course, possible that such constructs as 'chimera,' 'hippogriff,' and the like, might be both true and real. We cannot pretend that our knowledge is exhaustive of possible truth or reality. We simply do not know. But within empirical experience they have not occurred; indeed, they are contradicted by all the analogy of experience. Accordingly, while we might hold an open mind as to their possibility, actually we must remain ignorant.

The 'square circle' and like constructs, when related to empirical reality, are insightfully known, not only as not being in any way in accord with it (and thereby possessing a like reality derived from it), but even as necessarily

untrue to it. If such constructs as these are analysed, they are cognised as violations of the principle of contradiction ; which is only another way of saying that they are not (and cannot be)[1] true. While both objective and real, they are no more than real and objective fictions.

The foregoing paragraphs of the present chapter may be summed up by saying that the world of ideal reality, in so far as it consists of abstract simple and constructed mental items, is an objective world, a world of ' thoughts,' the reality of which, so far as it extends, is fundamentally identical with that of the world of empirical experience, the world of ' things.' The contents of this ideal world, again so far as it consists of abstract simple and constructed mental items, are in themselves neither true nor false. Neither certainty nor doubt characterises the mere contemplation of them. When related to the world of empirical reality, however, all abstract simple elements and relations are seen to be true to it, while some constructs are seen to be true and others false to it. The criterion of truth, which *ex professo* is not here discussed, when applied to constructs

[1] *Vide infra*, Chapter V.

shows some to be unreal in the sense of being untrue, either as a fact or of necessity, to empirical experience; others as a fact, and therefore of necessity, to be true to it. All these statements refer to mental contents within the system of knowledge, and in no way to extra-mental reality. They are verifiable in introspection; and their introspective verification is their sole possible direct proof.

As we have seen already the processes of abstraction and construction do not furnish us with all the contents of the world of ideal reality. There remain also the correlates, which are not 'drawn out' from empirical experience but derived from it by the mental process of correlate-induction. These constitute an immense part of the ideal world. What is their objectivity and what their reality? The objectivity of abstract correlates, like that of abstract elements and educts or constructs, may be immediately asserted as a fact of introspective experience. The 'ether' or 'cause,' 'nonentity' or 'God,' are as objective as are 'red,' 'equality,' 'man,' 'animal' or 'being.' And the judgements into which such notions enter as terms, themselves being objective, still further emphasise the objectivity of the

items and relations which constitute them. Thus, a comparison of the judgements ' Being is not not-being,' or ' Contingent being has its reason in necessary being,' or ' No event occurs in one being without the exercise of causality in another,' or ' The ether must enter into any account of wireless transmission,' shows that they are objective in exactly the same way and to exactly the same extent as ' The book lies on the table,' ' Water rusts iron,' or the like. And the terms of all these judgements are equally objective, as introspection attests.

The reality of abstract correlates, however, cannot be established in the same simple way as that of simple abstract items and constructs; nor can their ' truth ' be verifiable (or not) within empirical experience as can the truth of the latter. Correlates are in no way, materially or otherwise, ' contained ' within the ' wholes ' of empirical reality as actually occurring; accordingly, they cannot be ' drawn out ' from them. It cannot, therefore, be by a simple comparison of correlates with presently occurring apprehends that their reality may be established or their ' truth ' verified.

Consider, as examples, two of the cases already

advanced—those of the correlates 'nonentity' and 'God.' It is perfectly clear that neither can be abstracted from empirical reality. The notions constituted merely of the denial of being or the assertion of essential being have no counterpart in experience. They are derived from experience by way of applying to it the relations of negation and analogy; in the case of 'nonentity,' by the application of negation to the most abstract of all mental items (that, viz., of 'being'); in the case of 'God,' by the establishing of the relation of identity between the items essential and existential being, and by the negating of every actual and possible simple and constructed abstract as being univocally applicable both to the notion and to empirical experience. A 'necessary being' cannot be 'wise,' 'powerful,' 'good,' 'loving,' or the like, in any exact sense in which these notions are immediately derived from empirical experience.

Such highly abstract and metaphysical concepts, however, while they are striking examples of the point to be illustrated, are not the only kind of instance which can be brought forward for consideration. Not directly derived from experience, but reached (at least in part) by the

same process of induction as those of ' God ' or ' nonentity,' we find within the system of knowledge also concepts like those employed in the exact and the experimental sciences. Perfect geometrical figures and the relations engendered by them, absolute though indeterminate quantities and the absolute equations established between them, are not as such empirically discoverable.

Causes are in a different category, and will be examined later (Chap. IV) ; but molecules, atoms, protons and electrons ; etheric undulations or quanta ; space, time and space-time ; these as such are not empirical. None of these notions is discoverable or directly verifiable within empirical reality, as are the abstract elements or relations and the constructs. What, then, is their reality, and with what are they to be related in judgements which may conceivably embody the relations of ' truth ' or ' untruth ' ?

A consideration and analysis of several of these notions will give us a clue to the reality of them all ; and we shall select for such consideration and analysis the notions of space and of time as being concepts both of the exact and of the empirical sciences. In this analysis, it is to be borne in mind that we have not yet franchised

the boundaries of solipsism, but are still concerned merely with abstract correlates, elements, educed relations, constructs and empirical experience only in so far as they actually occur within the system of knowledge. There is as yet no reference to any extra-mental reality.

It is clear that empirical experience contains 'wholes,' of which extensity is a constituent item, since it can be abstracted from them. This is a fact of introspection. The reality of extensity, accordingly, like that of any other abstract, is the reality of the empirical experience from which it is derived. Further, between the parts of such 'wholes' spatial relations obtain, and can similarly be educed and abstracted from them as fundaments. The most striking examples, perhaps, are those of visual and tactile configurations; but, in a vaguer way, there is a voluminousness to be discriminated in kinæsthetic, gustatory, olfactory and auditory 'wholes' also; and this, if not identical with, is akin to extensity.

Empirical extended experience is the reality upon which the notion of space, partially abstracted and partially induced from it, is grounded. So far as the notion may be said to be abstracted or

constructed, its reality and its 'truth' may be dealt with in the same way as those of the other concepts already considered. That is to say, for example, if we educe and abstract spatial relations from (say) that bit of empirical experience which we call a red triangle or sphere, we are in reality only making explicitly formal what already is materially part of that experience. The result of the abstraction of such relations and the forming of the appropriate constructs is the concept of the two-dimensional triangle or the three-dimensional sphere. This is a spatial (it need not strictly be a mathematical) concept, embodying the internal spatial relations of the apprehends in question. Though such abstracted and constructed concepts, however, are spatial, they are not the concept of pure space; they are no more than abstractions practised upon apprehends which, when related with the correlate 'space,' are seen to be potentially parts of it. The more abstract construct 'figure,' embracing all two- and three-dimensional ones, is in exactly the same case.

If, however, we consider our triangle or sphere, not isolated by abstraction from the empirical continuum in which it is as a fact experienced

but in its experiential relation to that continuum, we may, and do, look upon it as contained in the latter. The internal spatial relations of the apprehended triangle or sphere may be neglected for the external spatial relations obtaining between the rest of the continuum and the apprehends in question. And the abstraction of this set of relations gives rise to the spatial construct: the concept, namely, that apprehends are located or placed with respect to other apprehends. But, again, even the abstract notion of location or placing in this manner of one apprehend with regard to others does not equate with the induct 'space'[1]; for location or place is a relative, while space is an absolute notion. The spatial relations between apprehends are liable to change; whereas ideal 'space' is conceived as the absolutely immovable container of all actual and possible apprehends. Now, this notion is not derived as an abstract educt or construct from empirical reality; since it is nowhere discoverable in experience on introspection. None the less, 'space' is an object thought; for some it is an immense, indefinite, boundless emptiness, or a vast extension or magnitude of

[1] *Cf.* the Aristotelian category and the view of Leibniz.

which each and every part is mutually related to each and every other part.

The emergence in knowledge of such a notion can be explained on the ground that it is, like 'nonentity,' or 'God,' at least in part a correlate, i.e. the product of abstract relations applied to abstract educts and constructs. Thus, while extensity is an abstract mental item, it is a definite, mensurable extensity of given contour that is a part or an aspect of the apprehend; and in no way the immense and indefinite emptiness which is the content of the correlate (induced) concept. Such immensity and indefiniteness, such emptiness, is not verified in experience. Like 'God' or 'nonentity,' it transcends all experience; and it is to be accounted for in the same way as they. For, while the spatial interrelatedness of the concept may arise by way of eduction and abstraction, these characters are reached as correlates by the application of the abstract relation of oppositeness to the abstract items 'mensurable,' 'definite,' 'movable' and the like.

In no respect is the objectivity of the concept of 'space' here in question; it is the reality of that concept in so far as it may consist of correlates

'induced' from empirical experience. The problem here is one similar to that of perception, into the product of which, as we have seen, correlates may also enter. What is the reality of a percept? The answer given is that it is primarily the reality of the apprehend. This *is* a bit of empirical reality. Secondarily, it is the reality of whatever items concrete or abstract may enter into its constitution; and these latter, as we have seen, materially considered *are* empirical reality, though formally they are abstracts. Thirdly, it is the reality of the correlates which may in part, at least, constitute it.

Now abstract correlates by definition are not found within empirical experience, though they may in every way be identical with simple items or constructs which are 'drawn out' from it. On the other hand, they may be not only not identical with, but even contrary and contradictory to, all actual and possible simple abstracts and constructs; and, accordingly, transcendental to all actual and possible experience. A case of the latter kind is that of 'nonentity,' already considered. As far as perception is in question, cases of the former kind are not far to seek. They are all those cases in which the supplemen-

tative part of the apprehends which (jointly with them) constitute the percept, cannot be explained as having been abstracted from present or previous empirical experience. Thus, for instance, were we to see a totally unfamiliar animal, of colour, contours and size totally unlike anything we had ever seen, we should not be at a loss to ' perceive ' it as an animal having a reverse aspect not identical with, but analogous to, that of other animals of different colours, contours and sizes previously experienced. The reverse colour, contour and size (to omit an enormous number of like characters) which we ' fit ' as reverse to the obverse apprehended, are all, not abstracts (for by hypothesis we have never previously apprehended anything from which we could have abstracted them), but correlates. And, indeed, it may be argued that all perception, and not only the perception of unfamiliar objects, is essentially a matter of partial supplementation by correlates ; for no one apprehend, it could be maintained, exactly resembles another. Nevertheless, in the case of perception, the reality of the correlates entering into and partially constituting the percept can be controlled and is verifiable by empirical experience, in the sense that we can examine the

reverse side (or the like) by making it the obverse. In such a case the correlate either is or is not identical with (though perhaps not adequate to) the new apprehend. Consider the case of the fluttering white sheet seen as a 'ghost' by the fearful individual journeying alone in the dark. Clearly, in such a case, the percept, though objective, is not real in the sense of being true to empirical experience. Its reality is not that of empirical reality. And the criterion of this is that, as in the example just considered, control and verification of it are possible by the securing of a greater determinateness in the core of apprehension by reason of which it is a percept. Despite the dark, the attitude of fear with its accompanying emotion, and the incorrect simple abstracts and constructs, such control and verification are possible. Considered as a purely cognitive product of correlate induction, the supplementing correlate is or is not formally identical with, though materially it may be different from, a possible apprehend. Its reality, in the sense of truth, is thus under the control of empirical experience, actual or possible.

But is this so in the case of the abstract correlate 'space'? Clearly, it is not so. Immense and

indefinite immobile emptiness (immobile infinity, if you will), though, like 'nonentity,' it may be thought, can never be an apprehend; for every apprehend is limited in extension, and the sum-total of all apprehends at once is likewise limited. Even the sum-total of apprehends successively experienced and grasped in the unity of memory is not an immensity nor an infinity; nor is it an immobile emptiness. On the contrary, it is the unity of a finite collection of extended apprehends located one with respect to the other; or, looked at from a slightly different angle, it is the unity of a finite continuum of distinguishable extended apprehends, in the total extension of which each has its place. In thought, we can add to or subtract from this collection, or this continuum, by adding or subtracting further extended apprehends *ad infinitum*. In the one direction we tend to think infinite 'space'; in the other we tend in thought to annihilate space altogether, by shrinking it to a mathematical point (which, by the way, is perfectly thinkable). But either procedure, of adding or subtracting in thought, is in fact no more than adding possible extended apprehends to actually experienced ones; or, on the other hand, subtracting actual apprehends

from empirical reality by thinking them as if they did not there occur. The notion of ' space,' accordingly, is the notion of something objectively real in so far as it is the notion of the extension of possible as well as actual apprehends, and it is true in so far as it equates formally with the extension materially contained in those apprehends. This solution of the problem of the reality of ' space ' brings us, it is true, to the problem of the possibility of apprehends other than those actually occurring in empirical experience from which extensity is educed. Accordingly, the abstract notion of ' space ' is equivalent to the notion of the possibility of the existence of extended apprehends ; or, in other words, an indefinite, immense emptiness in which extended apprehends may be located. And the reality of this can be equated with the actual sum of extensities of the apprehends of empirical experience. When an attempt to establish such an equation is made, i.e. when an attempt to establish the truth or falsity of the concept of ' space ' by reference to the extension of empirical apprehends is undertaken, it appears to the writer that there is and can be no insight into many of the properties often asserted of it. For example, its ' absolute '

character, whether or not it is an infinite or an indefinite magnitude, whether it be non-Euclidean, and the like. All such characters can obviously be conceived, since they are all subjects of assertion or of debate. The question here, however, is not: "Are they conceivable?"; but: "Are they true?" in the sense already stated. That is to say: "Can they be verified by reference to empirical reality?" It seems to the writer that they cannot so be verified; and that the concept of 'space' must remain a mental fiction grounded in experience but not extracted from it. It does not, of course, follow from this that we are justified in asserting that space, as such, does not really exist as an extra-mental reality with perfectly definite characters of its own.[1] At the present stage of our discussion, however, that consideration does not arise. It merely follows that, in the intra-mental system of knowledge, the concept cannot be shown to agree at all points with empirical experience. At most, it does not contradict it. Accordingly certain at least of the characters of 'space' as conceived must remain an open question because of lack of evidence and insight in their regard.

[1] *Vide infra*, Chapter IV.

Similar considerations hold good in regard to the concept of time; though in respect of this even more insoluble problems arise than in respect of that of space; for the notion of time is even more universal and abstract than that of space, including, as it does, mental objects and events without extensity as well as those which display this character.

Pursuing a line of psychological analysis similar to the foregoing, we shall find again that time is a mental fiction grounded, indeed, in empirical experience but not wholly discoverable therein and extracted from it. The notion of time, like that of space, is, at least in large measure, a correlate of empirical reality, and not a simple or constructed abstract from it. Like space, time is spontaneously conceived by us to be something external to and independent of ourselves; something transcendental to consciousness. It is the dynamic world-process, or an aspect of that process, by which the mental processes of each one of us are measured as to their duration and their sequence; just as space is the static world-distribution, within which we are placed or located. At the present stage of our enquiry we are not, however, prepared to

consider realities transcendental to consciousness. Accordingly, we must here attempt to discover in empirical reality or experience the basis upon which our notion of time is built; and we must examine in how far that concept can be said to be objective, and in how far it can be asserted to be a true one.

On the point of objectivity we need not linger. As we have seen, all concepts, even when they refer to the most subjective of experiences, are themselves objective. As to truth, our criterion here shall be the same as before; viz., the equating of the concept with empirical reality within the system of knowledge. We shall find that the concept of time, again like that of space, is partially abstracted from and partially correlated with this reality; and, accordingly, that while the material basis upon which the concept is built up is real, in the sense of being part of immediate experience, some at least of the formal characters of the concept cannot be shown to be real in such a sense. As with space, so again with time, antinomies arise. Is space infinite in extension or limited, though immense? Is time infinite in duration, or had it a beginning and will it have an end? We must be prepared

to find within the system of our knowledge itself limits to our knowing. We have a right, no doubt, to hope to establish some truth ; but we should be confident to the point of presumption to expect final and exact equations between all the mental objects, perceptual and conceptual, of which our awareness is capable.

As to the immediate basis in empirical experience upon which the concept of time is grounded, this is clearly the experience of the relation of sequence. Just as the extension of apprehends furnishes the abstract mental item from which the concept of space is reached as a correlate, so the sequences occurring in apprehends give rise to the educt from which the notion of time arises. These sequences are perhaps most readily apprehended under the aspect of change, either in the case of that from one apprehend to another or in that of different characters of the same apprehend ; and this is apparently the reason why from the earliest times the apprehension of change has been accorded the foremost place in accounting for the concept of time. But neither change nor succession as empirically apprehended constitutes that concept. At most they furnish the relation necessary to be applied to the experienced

character of nowness (which every mental item has when it occurs) in order that the correlates 'past' and 'future' should be induced. Time is thus seen to be a product of correlate induction, past and future being inferred from the empirical experience of the character 'now' and the relation of sequence. As far as this concept squares with the empirical reality of 'now' and 'then' and sequence, it can certainly be said to be true. But when it is indefinitely or infinitely prolonged beyond the range of the apprehends, actual and possible, which are characterised by nowness and thenness and succession, the concept of time is in a like case with that of space. There is no evidence or intuition that time had or had not a beginning, or that it will or will not have an end. The problem is in reality at this point no longer one of time, but, as in the case of space, that of an infinity or a non-infinity of apprehends.

There is another character of the concept of time that is of the greatest scientific importance; that, namely, of its regularity. Like the exact characters of the mathematical concepts derived as correlates from empirical reality, this regularity of time is conceived as being absolutely exact. For the purposes of science temporal as well as

spatial measurements are necessary; and these are made by reference to arbitrary empirical standards, units such as centimetres and seconds, which are intervals of space and time considered as being absolutely equal. If such intervals were not always identical with themselves, scientific measurements would be illusory. Yet there is no guarantee that empirical scientific measurements are, or even can be, accurate; that they in fact accord as true measurements with the exact conceptual ones required. And this lack of guarantee would appear to be even more serious in the case of temporal measurements than in that of spatial ones.

In practice, scientific investigators meet the difficulty by making a large number of observations, measurements of space, time, and the like, and working out from them a mean, standard deviation and probable error. This use of statistical methods is peculiarly necessary in the biological sciences, and especially so in Psychology; but it is presumed (if not always observed) in all the empirical sciences without exception, because of the fact that all measurements involve among others errors incidental to the personal equation. All measurement con-

sists in the more or less accurate observation of a relation between the standard of measurement and the thing to be measured.

But to have recourse to statistical theory in order to correct empirical observations is to base science upon a conceptual foundation in the strictest sense. The actual empirical measurements made are recognised as having been inexact. The true measurements upon which scientific laws are founded may never have been made at all, and indeed never may be made. They are the means of the actual observed relations taken in connection with the theorem of probability. Science, accordingly, recognises in practice what philosophy has always theoretically asserted. Exact measurements cannot be educed from empirical reality. If this is to be assigned as their origin or occasion, they must be derived by way of correlates from it. Temporal relations may be empirically experienced; the notion of time transcends them. Temporal intervals may be judged equal or unequal empirically, but only with approximate accuracy if they are referred to objective standards, as clocks, vibrating forks or pendulums; and these are presumed to be regular in their motions,

though it is impossible empirically to establish the presumption. The notion of time, accordingly, as well as that of the regularity of its flow and of its rigidly equal intervals, is at least in large part a conceptual correlate. Its truth-equation with empirical reality is in a like case with that of space. The notion is a mental fiction grounded in experience but not extracted from it. At most, it does not contradict it. Certain of its characters, therefore, cannot be held to have a reality such as that of empirical reality.

The point that has been made is that the concepts of time and of space, together with those of mathematics, are formally transcendental to empirical experience. If their reality, therefore, is to be tested by their agreement at all points with empirical reality, it may be that we must conclude that they are unreal, at any rate in this sense. But, in another sense than this, they seem to be real in a very peculiar way. As constituting in part the world of conceptual objects, these notions share with abstract elements, educts and constructs the characters of changelessness and absolute self-identity which are not experienced characters of any of the contents of the world of empirical reality. Percepts change and alter even in

respect of their apprehended core. The river of empirical reality ceaselessly flows by us; 'we may not twice step into that flow of perpetual becoming.' The rose that was red loses its colour and its fragrance; the silver becomes tarnished; the pitcher is broken; man dies. But the concepts, whether merely abstracted or correlative, remain inalterable, eternal. These are their characters, even within the system of knowledge itself; we need not appeal to any extra-mental reality, but to introspection alone, to establish the fact. Moreover, these concepts are the exemplars, the measures, by which we estimate not the occurrence but the truth of all empirical experiences. It is to our ideas or concepts of gold or the British character that we relate a particular specimen of metal or behaviour in order to be able to say: "This is really and truly gold," or: "That man's conduct is truly British." In a similar way, it is to the concepts of space or of time that we relate any given relation (say of distance or similarity) in order to say of that relation: 'It is, or is not, a spatial or a temporal one.'

The point possibly comes out most clearly, however, in the case of geometrical concepts. Any empirically apprehended plane, triangle, sphere, or

the like, is triangular or spherical in so far as it approximates the perfect triangularity or sphericity of the concept only; and only in so far is it really a true triangle or a true sphere. As we have seen, the reality of these concepts is not the reality of empirical experience; for it has been shown that they cannot as such be abstracted from this. Yet there would seem to be a very true sense in which we may predicate reality of them, since the truth of empirical experiences is judged by them.

Moreover, there is another aspect from which the question of the reality of the ideal or conceptual world can be viewed. Just as concrete or sensed relations may be apprehended as obtaining between the items of empirical experience, so may relations be apprehended between concepts. Otherwise we could not make such judgements as 'Man is an animal,' etc. And just as in the one case there may be insight, so there may be insight in the other. Two reds may be apprehended as alike, one above the other, one succeeding the other or occurring simultaneously with it, in empirical experience. So two conceptual items, as an isosceles and a scalene triangle, may with insight be seen, though differing, to be alike—resembling

each other more than either resembles a square or a circle. So, again, the concept 'man' is insightfully grasped in its relation to the concept 'animal'; just as either concept to the bits of empirical reality it embraces. And were these insightful apprehensions never to occur, neither science nor philosophy—nor knowledge even—would be possible.

Finally, there is a certain necessity and internal consistency inherent in concepts which is not found as a character of items of empirical reality. Once occasioned by empirical experience, such concepts as man, triangle, cause, space, time, or the like, remain absolutely and apparently necessarily identical with themselves, no matter what changes occur in the empirical experiences by reason of which they were occasioned. These concepts—even those of space and time—are not spatial or temporal; not characterised by location in any other than a logical order.

It is true that, as to occurrence within knowledge, they only exist when thought or contemplated; but that also is true of any and every item of knowledge whatever, whether conceptual or perceptual. Like percepts, all concepts when thought have the character or accent of nowness

as mental events; and as such they take their place in the stream of becoming which is characteristic of mind. In this sense every percept (say, of this red triangle) is an entirely new and never before experienced event. It is numerically other than any previous percept of this red triangle, or any memory of it; though the two percepts and the memory may be insightfully cognised from any other than this point of view as identical. To escape the formidable difficulties raised by this fact the common sense, naïve doctrine of crude realism has been bluntly stated by psychologists: "*What is got twice is the same* OBJECT. We hear the same *note* over and over again; we see the same *quality* of green . . . we never doubt that our feelings reveal the same world, with the same sensible qualities and the same sensible things occupying it."[1] Were it not that we cannot take the realist solution of the problem of epistemology for granted at this stage of our enquiry, we might equally say: "What is got twice is the same concept; we think the same objective thought over again. We never doubt that our thoughts reveal the same world, with the same conceptual qualities and the same ideal objects

[1] James, *Principles of Psychology*, vol. i., p. 231, *sq.*

occupying it; objects immutable and absolved from the exigencies of space and time."

These ideals and the relations obtaining between them are, as we have seen, objective. In as far as they are extracted from it, they share the reality of empirical experience, since they are materially identical with it. In so far as they consist of correlative items they may transcend empirical reality; but they possess a reality of their own, in that they are the changeless self-identical exemplars by which the truth, though not the existence, of empirical realities is judged, and in that they display the characters of necessity and internal consistency which form the ground of the possibility of all knowledge.

THE REALITY OF CAUSATION

CHAPTER IV

THE REALITY OF CAUSATION

"Thoughts are but dreams till their effects be tried."—SHAKESPEARE, *Lucrece*, 51.

THE interpenetration of the two mental worlds of empirical and conceptual reality, considered in the foregoing chapters—the almost entirely inextricable intermingling of apprehends, concrete and abstract elements and educts, constructs and correlates, within the system of knowledge—is perhaps as well as anywhere considered in connection with hypothesis. For in hypothesis we pass from what is in the main a review of the first of these worlds to the second, and then back again to the first, in the twofold attempt both to explain the facts and events of empirical experience, and to give some account of the occurrence and the reality of our abstract notions.

Hypothesis is a phase in the construction and the co-ordination of knowledge as a system. It presupposes empirical experience as the materials

out of which, or upon the basis of which, systematic knowledge shall be built up; but in the actual building of the structure it transcends empirical experience and makes use of conceptual tools. It is a 'let us suppose,' or 'as if,' method of construction, in which facts or events are brought together in ideal representation and tentatively related in highly conceptual ways, in order that such relations may be tested by reference back to empirical experience. When such a test is satisfied, when the relations of the conceptual hypothesis are seen to be embodied concretely in the actual facts or events, when these latter are found to square with the former, the hypothesis is said to be verified and is usually called theory. And the greater the number and the variety of facts and events that can thus be explained by the theory, the more satisfying does it become. Thus the laws of motion are eminently satisfying from the point of view of knowledge, since, though they are abstractions in a high degree, every concrete moving body in empirical experience can be seen to exemplify them. In a similar way, the principles of cognition are satisfying because every concrete cognitive mental process can be shown to fall within their scope.

It might seem that here the satisfaction arising in the discovery of the congruence of many concrete instances as exemplifying the relations set out in the hypothesis is a criterion of its truth ; and indeed, it may be a criterion, but no more than a remote and indirect one ; for it is insight into the identity of the abstract relations expressed in the theory with the many concrete relations embodied in the empirical facts and events that gives rise to the satisfaction. It is the intuition, unclear and vague even though it may be, that at bottom the empirical and conceptual worlds may be entirely similar, if not indeed identically the same ; that systematic knowledge, even if at present consisting in fragments, must be fundamentally one ; which satisfies.

Hypothesis, then, in the first instance has an explanatory value. It aims at explaining to our satisfaction facts and events ; at answering the questions : " Why is this so ? " and : " How is this so ? " To be sure, no fact taken in isolation is capable of explanation ; it can only be explained by reference to some other fact or event, known or unknown. But, then, no fact exists in isolation ; no event occurs in the absence of other events. This is a fact of introspection, at any rate in the

case of the adult; but there is evidence also that it is a fact in the case of the child as well. For this reason, hypothesis would seem to be a mental process genetically of extremely early origin in the history of the individual. And, indeed, it is. The behaviour of very young children (two years) shows clearly that in this respect their use of it is on all fours with that of the man of science or the philosopher. In this connection, further, child behaviour and the earliest childish speech also give evidence of conceptual thought as well as of empirical experience.

It is not, however, here my purpose to enter into Child Psychology; for that would be to abandon the point of view I am taking up. None the less, relinquishing this point of view for a moment, it may be said that the mental processes involved in hypothesis are everywhere the same ones; and everywhere they show the inter-penetration of the conceptual with the empirical worlds. It may be noted, further, that whether in the adult or the child there will be no occasion for hypothesis unless and until 'Hows' and 'Whys' are asked, or the relations apparently observed in empirical reality have doubt cast upon them as not squaring with other apparently observed

relations, and therefore perhaps being in reality other than they seem to be. We do not suppose what we intuitively know. We need no hypothesis when we are in possession of a law.

But, as a fact, do we know intuitively all the relations of the items of empirical experience? If we did there would clearly be no need of hypothesis. We should be able to generalise the laws of Nature from single empirical examples in the same way as that by which we generalise abstract mental items from concrete experience. And this obviously is not the case. I am not here referring to those general principles or axioms which are real, self-evident and universal. These, clearly, are conceptual; they are of the nature of abstracts, and may be exemplified in every concrete instance possible. This, however, is not true in respect of natural laws which, though dependent upon axioms for their formal evidence, are also dependent upon empirical observation for their material content. Relations as well as items are part of that material content and not infrequently are not and cannot be observed. They must be supplied, either by the use of abstract relations educed from other experiences or by the

application of correlates to the items to be related. An example here may be found in either of the rival hypotheses put forward to account for the propagation of light. No one has experienced an etheric undulation; no one has directly apprehended the emission of luminiferous corpuscles. But waves and corpuscles alike have entered into experience and can indifferently be therefore pressed into the service of hypothesis with a view to explanation. Thus theism as an hypothesis, or the Copernican astronomy, or the epistemological supposition that in knowledge extra-mental objects may conform to the mind rather than that the mind should conform to objects, are all explicable as cases of abstract educed relations and correlates being employed to account for the occurrence of concrete facts and events.

It will be observed that all these cases are instances of causation. It is by hypothetically naming a cause that we attempt to give an answer to the question 'Why?' In this chapter accordingly I propose to examine the origin of the notion of efficient causation, to enquire into the ways in which it is applied to the items which together constitute what we call the 'external world,' and

to determine in how far we may be said to know causes.

It is evident that the notion of efficient causality which we certainly possess and apply to every event of experience, must have its basis in some sort of empirical experience. As a notion, it must have arisen by way of the abstraction of elements or educts or by correlate discovery. No other possible account can be given of its origin, save that it was an innate idea ; and, apart from all other historical arguments against the occurrence of innate ideas, the simpler—and at least to me the insightful—explanation I shall give of it makes the hypothesis of innatism superfluous.

As a concept, the notion of cause must then be an abstract educt or a correlate; since as such no general notion is discoverable within empirical experience. When we perceive this piece of iron becoming oxidised in the damp, we say: " Water rusts iron " ; but, as we have seen, no true causal nexus is apprehended, nor is the universality of the judgement given in the concrete experience itself. Similarly, when we see an unsupported body fall, and measure the acceleration of its movement, we say: " Freely mobile masses gravitate together according to a definite law " ; but, again, we

apprehend no true relation of causality, nor do we find any universality in the concrete example.

The rusting of iron by water, the movement of one body towards another, the production of like progeny from like parents, the falling of a man into a rage or of a crowd into panic, and all similar events, are consistently grouped together by us as phenomena falling under the same one head of causation ; and, since the events in question are in this respect similar though vastly dissimilar in others, the notion of causality must be an exceedingly abstract one indeed. It can, however, be directly apprehended in no one of the concrete examples of this sort to which it is applied. It is, accordingly, not an educt from nor a correlate of them, as we have seen space and time to be by denial of limits and the like. Nor can it be a correlate pure and simple, as the notion of the necessary is a correlate from that of the contingent, or the notion of immortality from that of the mortal. For, in these and like cases, the item to which the relation of opposition is applied is a positive one. But neither in the items nor in the relation of temporal succession is there any positive character from which, by opposition or any other relation, the correlative item of cause

might be derived. Except the one character of effect. And that character is no more apprehended in empirical experience of the objects together constituting 'the world' than the character of cause itself is.

Whence, then, has it its origin? For it certainly occurs as an item in knowledge. If we exclude all the items of empirical experience which, together with their relations, we agree to call the 'external world,' the only thing that is left are those empirical experiences of what we call the Self. And among those experiences is that of the Self in its creative or causal character as an agent bringing about changes within experience. It is here that the concrete embodiment of the notion of efficient cause is found.

To be sure, in this unique set of experiences the Self is never apprehended in isolation, any more than is any item in our empirical experience of the 'external world.' It is always apprehended in relation to some other item or items. And it is precisely because this is so that the Self can be apprehended as a cause. For a cause, as cause, is nothing whatever without its correlative effect. This is not a mere tautology, but the statement of a relation. As such, cause and effect are two items

always apprehended together in a relation which, so long as the cause is active and the effect in the process of becoming, is a continuously changing one.[1] At least this is so in the case of that one cause of which we have immediate empirical experience; however much the concept educed from it may subsequently be modified and refined by processes of induction. It is possible to conceive a changeless cause, or a punctually instantaneous effect, but there is no such concept to be abstracted from experience; neither is such a correlate notion verifiable within experience.

The Self, however, as we shall more fully consider later on, can only be apprehended when actuated in some one or other way; it can only be known as an existent in its acts. As causal, it is only to be apprehended in the processes of conation and volition; or, in other words, in the active aspects of orectic processes.

Now, it might be argued that in any immediate experience of conation, or striving to attain an end, we directly apprehend a concrete cause in action; that from the concrete experience of a striving Self we can derive the abstract and general

[1] *Cf.* "The Psychology of Conation and Volition"; *British Journal of Psychology*, April 1926.

notion of cause; that we can then apply this relation to other items of experience with the consequent discovery of correlated effects. But such an argument would lack cogency because there are many experiences of conation which, taken in themselves alone, appear in knowledge as mere sequences in temporal order. No causal nexus in the guise either of efficiency or of teleology is apparent between the items occurring in such sequence. Reflex actions and behaviour of an instinctive kind are instances in point. When they occur, we may indeed be aware of them; we may (and do) interpret them as causal sequences; but we certainly cannot be said to discern the causal relation, either *a fronte* or *a tergo*, in them directly.

Similarly, we may interpret such purely mental experiences as revery or emotional disturbance as causal sequences, with a definite teleology and a definite origin; but, again, these experiences cannot give rise to the immediate awareness of the causal relation. It is when we turn from such processes of conation as these to voluntary processes, and to the connection between voluntary processes and conational ones, that we shall see in what sort of experience the concrete embodiment

of the abstract notion of cause is to be found. Now, in voluntary processes, whether they consist of purely mental trains of thought or of bodily changes such as muscular movements, we invariably find characters which differentiate them from involuntary ones. This, in a popular way, is admitted by everyone. No one ever blames himself—no one ever blames him—for images or thoughts which come unasked into his mind. No one ever considers himself to be responsible for purely instinctive or reflex actions. Over mental and physical events of this kind we are persuaded we have no control. We may here, indeed, be causes; but we are not conscious causes. On the other hand, there are thoughts and actions for which every one holds himself praise- or blame-worthy; and over such thoughts and actions we are equally persuaded that we indeed do have control. We consciously entertain them and bring them about. On such persuasions does the structure of society depend; embodying, as it does, the moral and social relations of one individual with another. But the popular persuasion, to be justified, must have some firm basis in immediate experience. And in fact it has. There is an introspective difference between

the characters of those processes, both mental and bodily, which we respectively call voluntary and involuntary.

This characteristic difference was obscured and, indeed, denied in the psychology of associationism. Voluntary processes were explained on all fours with involuntary ones as involving no other factors than these. The theoretical bias that 'consciousness' consists merely of objective contents and subjective states,[1] and that the concomitances and successions of these are to be explained upon the lines of association, led thoroughgoing associationists to reduce volitional processes to involuntary ones, and to explain our common belief in the spontaneity of choice and the causality of the Self as no more than illusions. All active processes were thus theoretically reduced to a common level. No distinction was made fundamentally between knowing and striving. Still less was conation distinguished from volition. And awareness of the Self was made to consist of that constellation of feelings, mostly cœnæsthesic and kinæsthetic, which we call our bodies. Since this group of feelings invariably tends to arise by way of association whenever there is

[1] *Vide supra*, pp. 57, *sqq.*

inhibition between other contents tending to discharge in action, and since it is accordingly interposed between the rise of those contents into consciousness and the actual discharge of one of them, we have the constant illusion that it is we who choose. In reality, however, there is no causality other than temporal succession in the phenomena ; a succession adequately accounted for by the law of association by contiguity. It seems to be clear that this conception, far from being in reality a psychological one, generalised from immediate experience and as such accordingly indisputable, is one borrowed almost as it stands from physical science and elaborated on the lines of its contemporary chemical theory.[1] In the endeavour to assimilate psychology to the physical sciences and thereby to make it respectable, associationism tried to lift itself to their level, as a man might try to lift himself up by the hair of his own head. It is hardly possible to explain mental experience, such as the associationists conceived it to be, by reference to a system of extra-mental things the very existence of which, so far as we are concerned, can only be accounted for by the fact that we are aware of it. We have no

[1] *ibid.*

right to take for granted an extra-mental world and its laws, and to suppose that we reflect that world and its laws in our knowledge, any more than we have the right to suppose that extra-mental things, when we know them, conform to the laws of our minds. Still less have we, *a priori*, the right to force the data of immediate experience into moulds which cannot be shown to be derived from immediate experience in any way. The common, popular persuasion will persist despite the pseudo-scientific explanations of associationism.

Associationism, as a school of psychological doctrine, however, is no longer seriously to be reckoned with. Instead of its almost entirely theoretical outlook, contemporary psychology has substituted an experimental method in which psychological principles are generalised from psychological (empirical and experimental) observations. It has been demonstrated that the doctrine of the older school breaks down in the field of cognition; that the laws of association cannot account for all the observed facts.[1] It has been shown also that it breaks down in the field of orexis. Purpose, teleology, conation and

[1] *Vide supra*, p. 60.

volition have full right of citizenship in psychology, no matter how this fact may affect, or be affected by, their exclusion on methodic principles from the physical sciences. And in this sphere cause also, not as mere sequence of phenomena, but as efficient reality, has its rightful place.

This conclusion arises from the very considerable series of experimental researches that have been carried out during the past twenty years or so upon the human will. Little by little in those investigations a theoretical psychology of will, still, it is true, elementary, has been built up. In that psychology both the teleological[1] and the efficient causality of willing (resolving, deciding, determining, and the like, together with the carrying out as far as may be of the resolve, decision or determination) must be recognised. The experimental work already done leads us to distinguish conation (trying, striving, achieving, etc.) from volition proper.[2] And it has been found that in truly voluntary acts the striving or doing

[1] *Vide infra,* Chapter V.

[2] *Cf.* "The Conative Indications of the Psychogalvanic Phenomenon"; *Proc. VIIIth International Congress of Psychology,* 1927.

is related to the determination or resolve to do as effect is to cause. This might, of course, seem to mean no more than that the conation is cognised as merely following upon the volition. It might seem to mean no more than that we insightfully cognise the two items in their relation of temporal sequence, just as we might cognise two successive positions of the hands of a clock in that relation, and in no other relation. In point of fact we do apprehend this relation of temporal sequence. A decision made in a moment may have as its consequent a conation or series of conations which lasts a lifetime. But an analysis of an act of will reveals more than this. It reveals other relations than that of mere sequence. It reveals the causal relations, both teleological and efficient. Let us suppose that, in contradistinction to a reflex like the knee-jerk, I wish to bring about a movement of my leg. In this situation there is an end (proposed, imaged or intentionally thought); namely, the alteration in the position of the leg. There is the desire that the position shall be altered. There is the intention that the desire shall be fulfilled. These are all introspectible facts; and so far the analysis has yielded no more than the definition of volition given thirty

years ago[1]: "A desire qualified and defined by the judgement that, so far as in us lies, we shall bring about the attainment of the desired end because we desire it." Taking singly the items of knowledge here, which I have already stated to be introspectible facts, we discover manifold relations between them; but the relation of causality only emerges when the wish becomes effective, and we actually experience the vital connection between it and the conation which results in the movement of the leg. Or, better stated—for a 'wish' is no more than an abstraction—the relation of cause and effect is lived when I, wishing to move my leg, strive; and my leg moves.

Quite similarly (and even more strikingly, when the 'body' is left out of account and only mental processes examined) do we discover the causal relation lived in purely mental processes. I wish, again let us suppose, to recall a name that has escaped me. In these circumstances, again, there is an end proposed: the recovery of the name. There is the desire that the name shall come to mind. There is the intention to recall it. But, as in the former case, there is more to be discovered

[1] Stout; *Manual of Psychology*.

than this ; more than the items and the manifold relations, when the situation is lived. The relation of efficient causality is itself lived when the name emerges in consequence of the effectual wish. More than this, that relation is lived even when the name fails to emerge consciously. The conation—the trying to find the name—is the effect of the active Self wishing and intending to find it. It is from this immediate concrete experience of the Self willing and the Self striving and doing, that the abstract relation of efficient causality is derived.

The foregoing are crude and bald examples of what may, with far greater exactness, be analysed in experimental work upon the will. I need not here labour the teleological aspect ; since it is abundantly clear that all real will-acts have ends in view.[1] All the evidence from all the experimental work bears this out ; and the point will be dealt with in the following chapter. But, with regard to the effectual aspect of acts of will and their consequent conations, more must be said. It has been shown, and I think it may be said that the fact has been supported by all the

[1] *Cf.* " The Psychology of Conation and Volition," *British Journal of Psychology*, April 1926, p. 339.

psychological investigations, that the acceptance of a task by a Subject brings about what has been called a ' determining tendency ' for him to perform it. Thus, if the Subject resolves, according to instructions, to react with different hands to different stimuli that may be shown him, he carries out this task, at first consciously, later on even unconscious of his instructions, when the stimuli in question are exhibited to him. Likewise in such tasks as those set in ' intelligence tests,' as, for example, to find words in given relation to stimulus words, he comes to carry out the accepted instructions without further consciousness of them. At first with full consciousness of what he has to do, later on oblivious of the task, he performs it. Now these so-called ' determining tendencies ' or ' mental sets,' whether conscious or unconscious, whether affecting purely mental sequences or bodily ones also, are, in the experiments, demonstrably causal in the truncated sense of being merely in the antecedent-consequent relation. But introspection yields the efficiency relation also. This, of course, from the standpoint of solipsism, cannot be proved by assertion or argument. It is, and from the nature of the case must be, a matter for individual, personal and incommunicable

insight. Nevertheless, in the hypothesis (reached by correlate-induction) that there may be other persons like to, yet other than, myself, I must believe that they also actually live this causal relation and may insightfully apprehend it. If this be so, alike for them as for me, a concrete relational experience is lived from which the abstract relation of causality can be educed. Once educed and abstracted, this causal relation, like any other, can be applied to any items of experience whatever in order to see whether or no it will fit them.

It is of the greatest importance that some account should be given of the origin of our notion of efficient causality in the immediate experience in which that relation is apprehended with insight. It is submitted that the lived experience of the causal Self as outlined in the foregoing paragraphs is the necessary and the sufficient explanation of the origin of the notion. It is a relation educed with insight from concrete Self-experience.

We have next to consider the ways in which this notion is applied to the phenomena of the ' external world ' ; or to what, from our present standpoint, is the same thing, viz., the purely objective items of knowledge. It is quite clear that we do relate

together in causal systems the different items of the world as they exist in knowledge; quite clear that we make a radical distinction between mere sequence and true causality. The more exact does our science become, the more clearly does the distinction emerge; what might at a more primitive stage have passed as causes being later on rejected as being in fact no more than temporal antecedents. What is required by science as well as by common sense is an explanation of events on analogy with the experience we ourselves have of our own causality in the case of volition. Accordingly, given any event to be explained, we set about looking for an antecedent which conceivably might be in a relation to it similar to that in which the Self-willing stands to the Self-doing. To be sure, we do not, and cannot, expect to apprehend the causal (efficiency) relation as such in the objective facts. At most we can hope to find in the relations between them certain characteristics of the causal relation as we immediately apprehend it in ourselves.

Those characteristics are necessity, invariability, immediacy, and the like, which are usually treated in the textbooks of Logic. They are not, however, mere logical abstractions. Like

every other notion we possess, they are in some way rooted in, or anchored to, concrete empirical experience. They are characters introspectively discoverable in the insightful experience from which the notion of causality itself is derived. For instance, there is no voluntary sequence, mental or bodily, without an immediately, invariably and necessarily antecedent act of the will. It is in seeking these characters in relations obtaining between objective items of experience that we apply the notion of cause to the events of the ' objective world ' of empirical experience.

Every event in knowledge is preceded by other events in great variety ; but not all the relations between a given subsequent event and its multitudinous antecedents display the characters in question. If one should do so ; i.e., if an event B is immediately, invariably, necessarily preceded by A, if it never occurs in the absence of A and always occurs when A is present, we call it effect of A and we call A its cause ; reading into the sequence an efficiency which we have as a matter of fact discovered in ourselves. The process is one of applying one relation by analogy to another ; or of supplementing one relation by analogy with another. It is a case of educing an objective

relation and then comparing it with an educed subjective one. As I, willing, am to myself, doing, so A is to B. And this analogy may insightfully be grasped up to the point of exact identity save in the one respect that we cannot educe efficiency from the A-B relation alone. We interpret the relation in question as one of efficiency because of our own Self-knowledge. And, generalising from this, we formulate the principle: "*Every* event has its cause." [1]

But not every event, whether taken to be in the immediate, invariable, necessary relation only, or in the efficiency relation also, has its known cause. That is to say, there are items apprehended as items between which and others there are no relations of this kind apprehended. Or there are items to which we apply the causal relation (as indeed we do to all) which lack their known correlated items. In such a case, in a purely conceptual or in an imaginative way, we construct the correlated items in our thought. And this we do in the ways, already familiar to readers, of abstraction of elements eduction and abstraction of relations, construction of concepts and induction of abstract correlates. For example,

[1] For further development *vide* Chapter V.

we educe the gravitational relation from the observed movements of the items falling bodies, earth, sun, moon and planets; and this relation displays the characters which enable us to read efficient causality into it. In this case the items (or some of them) are known; the changing temporo-spatial relation is known more or less exactly; and the hypothesis is put forward that the law of that causality may be expressed in the exact formula that the motions are due to gravity —a force inversely proportional to the squares of the distances of the bodies in question. The formula is clearly conceptual and abstract. Something approximating it can be observed in immediate empirical experience, and in appropriate conditions the approximation becomes more and more a concrete instance of the formula. Guided by the conceptual hypothesis, hitherto unexplained events can be made to fall into line with the law of gravity; and the conceptual relation itself applied to an item, or system of items, can be made to yield causes in the shape of thought correlates. Thus, as a fact, to account for the discrepancy of the theoretically calculated movements of the planet Uranus from the actually observed ones, it was assumed that there

must be some other hitherto unknown body to account for it. Uranus being one of a system of items causally related in space, it was possible to calculate the theoretical place of the unknown body. And this was so successfully done that Neptune was subsequently observed by means of the telescope. The perturbations of Uranus were explained; they exemplified the law.

In the analysis of this mental process of hypothesis three points come to light. Hypothesis has to do with causes in the ordinary sense of the word, namely, as agents bringing about events. It has to do with the laws of their operations. And it has to do with other relations than the causal one which change dependently upon this latter. From the standpoint of empirical science all these aspects are of the highest importance; since science consists in the full investigation of causes. It is sufficient here for our present purpose to stress the interpenetration of the abstract and conceptual with the concrete and empirical in the structure of knowledge.

It has been pointed out that the process of hypothesis is one into which abstract elements, educed relations and constructs as well as correlates enter. The distinction between educts

and correlates appears in connection with hypothesis to be an important one. I have attempted to show that the notion of causality must be, and in fact is, an educt, drawn out and abstracted from the immediate and unique experience of the Self-causing. In one at least of its characters it is identical with certain relations of sequence which may be observed in objective items of knowledge; and, because of this identity, the central core of efficiency[1] is also read into them. Wherever we find the characters in question we speak of causes and effects; and we regard the causes as more or less closely analogous with ourselves.

But it has also been pointed out that, while abstraction yields concepts (fundamental items and relations) which, since they are directly 'drawn out' from empirical experience can be directly verified by reference to it, correlate discovery may yield us concepts (items and relations) which transcend all empirical experience, and therefore can never be verified by direct reference to it. In this latter case, we may ask: "What value for science is an hypothesis constructed upon induction of this kind?" The answer must be that, even

[1] *Vide infra*, p. 158.

if verification in the sense of discovering a hitherto unknown cause (as in the case of Neptune) within empirical experience is impossible, hypothesis may still have scientific value if it enables us to explain and to foretell events. In the example given above of the two incompatible hypotheses put forward to explain the phenomena of the propagation of light, we have a case in point. Neither can be verified by direct reference to empirical experience; each gives a tolerable account of the observed facts; both in the meantime will remain reasonable explanations, and so far satisfying, until further facts come to light which will exclude one or both of them.

It must always be a test of empirical fact that is required by science; but no one would say that all the hypotheses of science have been verified by this test, or that all current scientific doctrine is necessarily true. Much of it remains merely plausible hypothesis; and in fact is advanced by men of science as such.

But there are other uses of correlate discovery in the process of hypothesis in which, from the very nature of the case, neither direct nor indirect verification in empirical experience is possible. The conceptually assigned cause cannot be found

in experience (as was Neptune) nor can its effects be predicted, as effects of etheric vibrations or corpuscular emanations might be predicted in the rival hypotheses of light. From the nature of the case this could not be so whenever the assigned cause is a correlate derived by way of application of the relation of negation or opposition to all positive items of empirical experience. This, as we have seen, is part of the process by which we reach the concept of 'God'; the other part being the application of the relation of analogy. The theistic concept is one reached by negation and analogy alone. Accordingly, that concept can never be verified in concrete experience; nor can events in concrete experience ever be predicted because of the concept.

The distinction is drawn here, not only for the sake of completeness, but also because it would seem to draw an acceptable theoretical line of demarcation between the 'provinces' of science and philosophy. Attempts have often been made to draw such a line, generally with outstanding insuccess. Both science and philosophy deal with causes, proximate and ultimate; and, historically, a philosophical treatment of problems in the main has preceded the scientific one. Little by little,

as verification of hypotheses has come about, philosophy has handed over its work to science ; to such an extent, even, that men of science of late have increasingly paid the compliment to the philosophers of becoming philosophers themselves. But the two disciplines are yet theoretically distinct. And it is suggested that the distinction lies in the fact that some causal constructions are verifiable, either by direct reference to empirical experience or by the deduction and prediction of events in empirical experience from them ; whereas others are not. The foregoing analysis does not pretend to be, and is not put forward as being, in any sense, a complete one ; but merely as a suggestion that in the insightfully cognised difference between abstract educts and correlates we have the clue to the chief difference between science and philosophy.

The last point to be developed in the present chapter is the answer to the question as to in how far we may be said to know causes. It has largely been provided in the foregoing paragraphs ; but it must be stated with greater emphasis again from the solipsistic standpoint which up to this point we are still adopting. We have not yet passed from the individual, personal and

incommunicable system of knowledge to an extra-mental world of real persons and things, agents and events, causes and effects.

In the first place, then, we know ourselves as causes; and it will be shown in a subsequent chapter[1] that this knowledge is not merely phenomenal in the sense of being possibly unreal. The experience of Self-causality is a lived experience, direct and incommunicable; and from this as known directly we educe the relation, and form the abstract concept of, the efficiency relation between cause and effect. A cause, as such, like a relation and an effect, is an abstract; what is actually lived and known is the concrete cause-related-to-the-effect in Self-experience. In the fullest sense this is 'knowing a cause' with a knowledge as profound and intimate as any knowledge can be; a knowledge comparable to Self-consciousness—which, indeed, it is.

With regard to all other causes related to effects in empirical objective knowledge, (that is, within the system of knowledge itself) we can only know of them that they have certain characters identical with those cognised directly in our own

[1] *Vide infra*, Chapter VI.

Self-awareness of causality. We read into their sequences an efficiency which we have found in ourselves alone. Reading efficiency into the relations that obtain between such items as we call objective causes and effects, however, does not alter in any way the character of the relations already observed. It enriches them by adding a new relation to them which, on analogy with what we immediately and with insight observe to take place in ourselves when we will, explains the changes which actually do occur in them. We may thus be said to know causes in empirical reality only by analogy. But that is a knowledge worth having if it enables us to explain changes taking place in that reality and to predict changes which will occur in it ; as indeed it does.

With regard to real causes which are postulated, and from the nature of the case must transcend empirical reality, of these science, in the strict use of the term, can know nothing ; for the method of science forbids the inclusion of knowledge that cannot be empirically verified into its system. But scientific knowledge, thus defined, does not exhaust knowledge. Man, being what he is, remains a philosopher ; and even the man of science in his laboratory has not entirely thrown

off his human nature. Postulated causes, transcendental to the objective world of empirical reality, such as energy, ether, matter, life, spirit or God, are reached by the same psychological processes as any others; by the mental manipulation, namely, of educts and correlates. If they cannot be verified as science verifies its concepts, that is, if they can never enter as they are into empirical knowledge, at least they can be thought; and as thoughts they have the same mental reality as any other abstract items of knowledge. Moreover, they play an exactly similar part in the synthesis and systematising of knowledge as the scientific concepts which can be verified.

Within the system of knowledge such causes might more aptly, perhaps, be called reasons; but that they are known must be indisputable. To be sure, once again they are only known by analogy and largely (and in some cases wholly) by negation of characters always found in objective empirical experience. But that is not to say that they are any less mentally real than items possessing objectively and positively known characters. Whether they actually exist in any other guise than as thoughts, whether any other than mere thought relations obtain between

them and other items of experience, is another matter with which we are not yet prepared to deal, but which we shall consider in a subsequent chapter. At present we may say that within knowledge they are items in given relations to other items; and, as in the case of empirical relations displaying certain characters, we read into these conceptual relations the further relation of efficiency and designate the items related as cause and effect or as reason and result.

THE REALITY OF FINAL CAUSES

CHAPTER V

THE REALITY OF FINAL CAUSES

"Operari est hypostasis subsistentis, sed secundum formam et naturam a qua operatio speciem recipit. Et ideo a diversitate formarum seu naturarum est diversa species operationum." AQUINAS, *Summa Theol.* 3ª, Q. XIX, 1, *ad* 3^um.

IN the previous chapter on efficient causation, when we came to examine the characters of the causal relation as it is conceived by us, we discovered that there was one character objectively read into all causal sequences which is subjectively lived only in that unique experience from which the notion of efficient causality is immediately derived. The character in question is that of necessity. *Every event necessarily has a cause.* In the present chapter we must make some examination of this character of necessity from the point of view of psychology, in order to ascertain its implications and determine the extent of its application.

Any investigation in respect of necessity will most conveniently begin in the sphere of conceptual reality, and then pass on to that of the

perceptual or empirical order. It seems to be less clear that an earthquake, a famine, a war, or the birth of a monster should be necessary than that an ontological, an arithmetical or geometrical relation, or even that a uniform law of Nature should be so. We shall accordingly first consider those objective relations which obtain in what are commonly called ' necessary judgements,' such as those of identity and contradiction. An examination of these will provide us with a clue to the necessity of those relations which hold good in general between concepts which can be said in any way to be ' true to ' empirical reality ; and this will permit of the passage from conceptual to empirical reality as far as necessity is concerned. The introspective ground from which the notion of necessity itself is derived—the insightful experience of the Self-willing-and-trying (or -achieving) has already been referred to in the last chapter; and it need not be again developed here in that aspect. But the general point of view from which the foregoing chapters of this book have been written must not be lost to sight. We are still examining our problems from the standpoint of solipsism. We have as yet made no transition to any world of extra-

mental reality in which the relation of causality or any other relation whatsoever may hold good, or with regard to which we may assert that anything whatever is necessary.

One distinction only need be made before we undertake the present examination. It is that which obtains between essential and existential judgements. Psychologically, these are totally distinct. It is one thing to apprehend with insight the essential relations that must obtain between any two concrete items, whether those items actually and presently occur in empirical experience or not. It is another thing to apprehend the actual occurrence of the items in question. Introspectively, the insightful grasping of a relation between empirical terms actually occurring as such in knowledge, or even only conceptually represented, is an entirely different experience from that of apprehending, whether empirically or conceptually, an item or a relation as a real occurrent.

Any real apprehend, however, as well as any concept educed or derived by way of a correlate from it, is capable not only of being a term in relation to some other apprehend, percept, educt or correlate, but also of being a term in relation

to itself. And in this way the most abstract, general and necessary judgements come to be framed; those, namely, of the principles of identity and contradiction. In respect of these there is not necessarily any question of existence. *If* A exists, it is an existent A and not not-A. Whether A exists or not in fact, A is A and not not-A. The abstract concept A is itself and nothing else, just as the concrete temporally and spatially located A is in all respects itself and no other. These are self-evident judgements, immediate and necessary; although, as thus stated, they are no more than truisms, and of no advantage either to science or philosophy. To state that A is A, whether with regard to empirical or conceptual experience, is to state a jejune and unprofitable relation which is no doubt insightfully apprehended as soon as A is compared with itself. But this is not in point of fact the full significance of the principles of identity and contradiction. No known empirical experience is absolutely simple, and few concepts are. Were they so, no progress whatever in thought could be made by the use of the principles in question. It is the fact of actual complexity and possible analysis of both empirical items and concepts

that makes for progress. A is rarely, if indeed ever, simply compared with A. It is compared as a unitary whole with some one or other of the aspects which it yields upon analysis, or with all these aspects taken together but considered apart from it (i.e., with a conceptual construct).

In this way the generic, specific and numerical kinds of identity discussed by the logicians are possible and valuable relations. The concept ' animal,' for example, is generically identical, and the concept ' man ' specifically identical, with the concrete percept ' Peter.' The insightful apprehension of such relations of identity presupposes, no doubt, a previous very considerable mental work of analysis, abstraction of elements and educed relations, construction of complex concepts, and the like ; but these, together with the relations of difference established between empirical items and concepts, are at the foundations of all progress in science whatever.

Generic and specific identity, as instanced in such judgements as ' Man is an animal,' ' Man is rational,' ' Peter is a man,' consist in relations of identity which are both conceptual (logical) and real. In the first two cases, two abstract concepts give rise to the emergence of the rela-

tion ; in the last, a concrete item and an abstract one engender it. Stated logically, the intension of the predicates of these judgements, so far as it goes, *is* the intension of the subjects. Expressed in psychological terms, this means that as mental items they are more elementary concepts and less of the nature of constructs. They contain fewer abstract elements and educts than those which are expressed in the subjects. An exception is the kind of judgement in which the subject is a concrete item. Formally no doubt, this has a subject which contains no abstract items whatever. None the less, such a subject materially includes all the items contained in the predicate together with many others not so contained. And these potential items can be abstracted from the subject of the judgement in question, even to the point of its individualising characters including both temporal and spatial localisation.

Clearly, the predicate-items are more or less inadequate to the subjects. Thus 'entity' is less adequate, and also less of a construct, than 'animal,' and 'animal' less than 'man.' This also is introspectively verifiable. The conceptual and the real identity, however, of both items in such judgements is insightfully apprehended.

Nevertheless, in these judgements the items are mentally apprehended as static. Even the concrete, empirical items which stand as subjects of judgements, though *de facto* they may be continually changing, and therefore not in all respects identical in two given moments of time, are abstracted from the condition of time in such judgements as 'Peter is a man,' 'Peter is sick,' 'Peter is reading this page,' and the like. Like the principle of contradiction, that of identity is (or should be) formulated without reference to time; and thus formulated it is evidently a necessary one. There is a sense in which even empirical items like 'Peter' are really conceptual.

Similar considerations lead to similar conclusions in regard to arithmetical and geometrical identities in respect of quantity. Two and two are equal to four; the straight line joining any two points is shorter than any curved one. It may very well be that no two items of empirical experience are identical in point of quantity, any more than they are identical in point of quality or essence; that no absolutely straight line can be empirically experienced. But the essential judgements are none the less necessary ones because their predicates are in this or that respect identical with

their subjects. They are, it is true, conceptual and abstract; possibly, as we have seen, never absolutely verified in empirical experience. But that fact does not affect the necessary character of the relation since it is grounded in identity itself.

If we should ask how many of such necessary judgements there are or what they may be, the only answer that can be given is that we do not know; any more than we know the number and the character of possible items of empirical experience. But that there are at least some we do know, such as those already instanced; just as we know that there are some empirical experiences, though we may not know all. The possibilities of knowledge are not limited by its actuality.

The foregoing brief psychological consideration of necessary judgements leads to the further consideration of the 'necessity' of the concepts which enter into them, separately. These concepts may or may not be 'true to' empirical reality; that is not here the question with which we are chiefly concerned. The real question here is: "Is there any character of necessity affecting them?" Once again, the only way to seek an answer to this question is to have recourse to

introspection. Introspection reveals that my objective notion, idea or concept of, say, ' man,' which I contemplate, *is* not the individual empirical experience Peter or John, though it may be occasioned by that experience, and may be said to ' be true ' of both Peter and John in the sense already discussed. The concept, as we have seen, is constructed of abstract elements and educed relations, possibly completed by correlates, from the individual empirical experiences. That such concepts are indeed constructs is clear, since conceptual elements can in turn be extracted from them. Thus simpler constructs, as ' animal,' and elements as ' rational,' ' quantified,' and the like, can be ' drawn out ' from the more complicated notion ' man,' in a precisely similar way to that in which the abstract element ' red ' can be ' drawn out ' from the empirical experience ' this red triangle.'

These constructed concepts and their elements, being objectively abstracted from spatial and temporal conditions, are always and everywhere identical with themselves. In other words, whenever *we* contemplate them they are objectively the same, even though the discrete acts of contemplation should occur empirically in space

and time. And, since they are objectively identical with themselves, both the conceptual elements entering into the constructs, as such, and the concepts constructed of them, as such, may engender a relation. This relation is an objective and necessary one; and it is also insightfully apprehended. It is an essential, though it need certainly not be an existential, relation. For instance, whether any triangle exist or not as an item of empirical experience, the sum of the three angles of a triangle essentially and necessarily equals two right angles. Whenever and wherever an individual man occurs in empirical experience he will essentially and necessarily be a rational animal. A real straight line will for ever (though, to be strictly accurate, the temporal adverb should here as well as in the foregoing lines be omitted) be the shortest line between any two points.

To express this in ontological rather than in psychological terms it may be said that essences are necessarily identical with themselves. Once they are posited, they display the character of necessity in virtue of the principle of identity itself. The ontological statement, however, is justified, and justified only, upon psychological grounds.

From the foregoing it follows also that natural

laws are invariable and absolutely necessary, so far at any rate as they are expressed abstractly in the terms of conceptual essences. Thus, for instance, hydrogen and chlorine, being what they are as empirical items of knowledge, in given conditions must necessarily combine to yield hydrochloric acid. It follows that an unsupported body necessarily falls according to a definite law of acceleration; that animal life depends necessarily upon the presence of vegetable life; that plants and animals reproduce their kind; and the like. In short, all natural laws whatever have this character of necessity; and, as a matter of fact, are always formulated as if they expressed absolutely necessary causal relations.

If we should ask: "How does this note of necessity, over and above that of causal efficiency, attach itself to what in the world of empirical reality is manifest only in mere sequence?", we must refer to the discussion of constructed concepts provided in the immediately preceding paragraphs. These concepts, no less than the empirical items of experience which occasion them, may, as we have seen, become items between which the relation of identity holds good; as in the generalised statement *Every thing is its own nature.* But, in

order to verify this principle, in each case an analysis similar to that already made in respect of 'triangle,' 'man,' and 'straight and curved line,' must be made. For example, the concepts 'chlorine' and 'hydrogen' must be analysed into the constituent essential items of which they are constructed (properties, as atomic weights, and the like). And among the products of such analysis are the ways in which these items behave with regard to other likewise constructed items. Envisaged from the point of view of their 'behaviour,' such concepts are said to be 'natural' rather than 'essential.' They are constructed of abstract elements and educts of, and correlates from empirical experience expressing behaviour relations, which we interpret as relations of activity. The principal one of these we have already considered when dealing with the concept of efficient cause.

But there is another concept, of no less importance, with regard to which no more than a mere reference has been made. It, too, has been derived from the same immediate and insightful experience as that in which we discover the origin of our concept of causal efficiency; namely, the

experience of the Self-willing-and-striving (or -accomplishing). In this experience when fully cognised we always on introspection discover a goal in regard to which the act of will has reference; we always find a striving towards an end. It is from this lived and relational experience that the notion of teleology is educed. The awareness of this relational experience is, as I have shown elsewhere, "no consciousness of *mere* relation, but the full-blooded, if elusive, consciousness of the Self-acting-in-some-determinate-way. In this consciousness two terms, or fundaments, and a causal relation are insightfully cognised. . . . But there is more in the experience than merely the Self, the end brought about by its act, and the relation between them. The experience is not a mere abstract awareness of fundaments in relation, but of a process in which the relation as well as the fundaments are undergoing change. And in that process we are aware also of a modification in consciousness from tension to relief; of a conflict, or discord, which comes to be resolved in a harmony." [1]

Now, this notion of conating, striving, tending,

[1] *Cf.* "The Psychology of Conation and Volition"; *British Journal of Psychology*, April 1926, p. 343.

inclining towards an end, experienced in our own activity, is clearly no more directly apprehended in the objective items of experience which constitute the empirical world of consciousness than is the notion of efficiency itself. It is by an extension of analogy that we apply it to other living beings and even to inanimate ones. "We not only conceive of animals striving, no matter how blindly, towards goals mentally presented in some way analogous to that in which *we* strive towards goals; we not only think of plants as tending towards the realisation of ends, of which we can scarcely credit them with 'consciousness' at all; but we even conceive of inorganic elements and compounds also as tending towards combinations with others, upon much the same pattern. That such conceptions exist is indubitable, no matter how the method and terminology of science have tended to refine them away. The teleological view, the view which anciently made of ends true causes, which has recently been so uncompromisingly restated by McDougall in his insistence upon 'purpose' as a necessary category in psychology, and our natural tendency to apply it, cannot be gainsaid. Yet we have no possible direct access to the facts involved in our concep-

tion, thus broadly considered. Whence, then, does it arise? What is its origin; and how can it possibly be framed?" [1]

An answer to these questions has been given above. The notion of teleology, of finality, of final cause, is educed and abstracted from our own lived experience of willing, striving, tending, inclining. And it is this notion that is applied, as the notion of causal efficiency is applied, to the related items of the world of empirical reality.

Accordingly, these items will be conceived as natures, including in the concept their tendencies towards ends. These tendencies will be essential to the concepts in question; as in fact on introspection we discover them to be. The nature of chlorine being what it is, the nature of hydrogen being what it is, these elements in appropriate circumstances will necessarily combine in hydrochloric acid. The nature of bodies being what it is, bodies will necessarily gravitate together according to a necessary law. It follows that the laws of Nature when conceptually stated are as necessary as those of mathematics.

But is this so in empirical fact? Is it verifiable

[1] *Cf.* "The Psychology of Conation and Volition"; *British Journal of Psychology*, April 1926, p. 343.

in empirical experience? And if it is not so verifiable, have we any right to say that a conceptually stated law of Nature has any truth-value whatever?

It can only be so—that is to say, we can only apply the teleological concept by analogy to the items of empirical experience—when the observed successions and concomitances of those items are regular and uniform. That is to say, laws of Nature conceptually and abstractly stated (in which case they are as rigid as those of geometry) can only be verified in empirical experience as conditioned by space and time, as well as by other relations essential to the natures of the beings in respect of which they are the laws. Hydrogen will only unite with chlorine when it is spatially and temporally in contact with it; when temperature, pressure, and other physical conditions are fulfilled; when other agents are not present which may have greater affinity with one or other of the gases in question. But to say this is to say no more than that the laws of natures (which are no more than the expressions of the tendencies of essences) are dependent for their actualisation upon conditions extrinsic to the natures in question. It is the task of the

man of science to find out in every instance what those conditions are. He takes for granted that everything is its own nature, and that the active tendencies of anything, since they are fundamental to that nature, express it. He states his natural laws, accordingly, in the form of relations embodying all the ascertainable conditions in which the tendencies of any given nature are realised. To be sure, such laws are still abstract, expressing as they do essentially necessary relations between concepts; but they are 'verifiable' in empiric experience, because in them all the conditions of empirical experience have been taken into account. If, as we saw in the last chapter, an adequate conceptual hypothesis as to the efficient cause of any event to be explained be constructed of abstract elements, educts and correlates from empirical experience, it can be 'verified' either in the sense of discovery of heretofore unknown items or in that of the prediction of events within empirical experience. We now see that empirical items obey the natural (teleological) laws expressed in the relations between concepts when the conditions of those laws are fulfilled. But, since the relations between the concepts are absolutely necessary, given the

conditions, the behaviour of empirical items will necessarily 'verify' them. For the concepts are the empirical items abstracted from individualising conditions.

That such laws might be other than in fact they are, and therefore that there is a sense in which they are not necessary, has sometimes been advanced as an imaginable supposition. For example, might not oxygen and hydrogen conceivably generate hydrochloric acid; or the law of gravity be reversed; or living beings generate other than their kind? Such suppositions are only imaginable or thinkable on the condition that we imagine the concepts related in the laws themselves to be essentially changed; changed in their very nature. Thus chlorine, in order to be thought not to have a tendency to combine with hydrogen, must be conceived as deprived of one of those very conceptual elements in virtue of which it is chlorine. Thus masses, in order to be thought as obeying a 'reversed' law of gravity, must be thought as essentially other than themselves. But to think thus is to violate the law of contradiction and the law of identity; which, as we have seen, are absolutely necessary laws, and indeed necessary conditions

of all thought. So true is this that were we to find an empirical item, presumably chlorine, which in appropriate conditions did not behave according to the exigencies of the concept, we should altogether refuse to identify it as chlorine. So true is it that, should we discover empirical masses 'gravitating' away from each other, we should at once look for some other counteracting cause to explain the phenomenon.

Concepts of natures, derived from empirical experience by way of eduction and correlate induction, being what they are, the laws of Nature when stated conceptually are inviolable.

Throughout the discussion in the foregoing paragraphs the argument has been stated as if we had already franchised the boundaries of the personal system of knowledge and were dealing with a real world transcendental to the individual mind. But that has only been for purposes of convenience in exposition. The reader has already been warned in this chapter that the point of view was to remain solipsistic throughout. What has been argued, however, can readily be translated into solipsistic terms. Within the personal and incommunicable system of knowledge of each one of us, if there be more than

one of us, at least some of the relations of empirical items and their elements, of the abstract elements, educts and correlates and the constructs formed of them, and of the empirical and abstract items together, can be and are insightfully apprehended. The items, empirical or conceptual, have only to be set in presence for the relations more or less clearly to emerge. In the conceptual order, so far as these relations are apprehended at all, they are insightfully apprehended as necessary. A is A. The whole is greater than the part. Masses move towards each other. Chlorine, hydrogen, oxygen, are gases possessing such and such properties. Hydrogen unites with chlorine or oxygen in definite proportions to form a compound. And the like. These may all be instances of the apprehension of necessary relations between abstracts only ; but, as such, they are apprehended with insight. The relations in question are evidential ones. Though there may be no true insight into efficient causality or teleological causality as obtaining between the items of empirical experience, though these may only be apprehended in the so-called causal relations of concomitance and sequence, the reason why both efficiency and teleology are

read into them is clear. It is because efficiency is the only way, analogical though it may be, to interpret conceptually what in temporo-spatial conditions are merely apprehended as concomitances and sequences; it is because the character of the conceptual relation instanced in temporo-spatial sequences appears evidently to be teleological. Place any sequence of this kind in presence of the sequence of Self-envisaging-and-tending-towards- (or attaining-) end, and the relation of similarity even to the point of identity becomes manifest.

Empirical experience conforms to the natural laws as conceptually stated because the concepts embodied in the laws are derived by abstraction from empirical experience itself; because laws are no more than the natures of the empirical items in question conceptually expressed without reference to any conditions. But the empirical items themselves never occur in knowledge as unconditioned, by time, space, and many other circumstances. It is easy to see how, for this reason, absolute uniformity of coexistence and succession should not in every empirical case be observable. There may be exceptions. Accordingly, though the essential laws which are the

natures themselves, are necessary and inviolable, admitting of no exception, the existential manifestations of them may be wanting in any given concrete case. The essential laws of natures may not be always verified in the existential course of Nature as known. Necessary conditions may be lacking.

Nevertheless, even such things as earthquakes, famines, wars and monstrous births occur in empirical experience. Nature taken as a whole often seems to give the lie to the laws of natures considered separately and abstractly. These laws, if they indeed summarise valid relations, are often apparently frustrated; whereas in theory their frustration is altogether impossible. This is a criticism opposed to the finalist or teleological conception of the world of empirical reality; in which order is held to be secured by the mutual conspiration of all the individual natures each tending towards its own end. But it is precisely this tendency of each nature towards its end, and the clash of such tendencies one with another, which brings the apparent frustration about. Causes are, or seem to be, at once efficient and teleologically determined. Untoward events are due to their efficiency while their teleology is

frustrated by other causes. And, indeed, this is our own immediate experience, from which the notions of efficiency and teleology alike are drawn. The frustration is apparent only when an individual cause is abstracted from the whole and considered as if it existed in no relation to any other cause. Monsters must arise if causes are to be both absolute and relative ; absolute each in respect of its own nature, relative to other natures in a world. They are as necessary in these conditions as are the natural events proceeding in accustomed ways. Through both the worlds of conceptual and empirical reality reigns necessity. There are no exceptions in science or in philosophy. But for the reason of this necessity we must look beyond the empirical and the conceptual worlds to the world of transcendental reality to be considered in the next chapter.

THE APPROACH TO TRANSCENDENTAL REALITY

CHAPTER VI

THE APPROACH TO TRANSCENDENTAL REALITY

"Intrandum igitur est in rerum naturam et penitus, quid ea postulet, pervidendum."—CICERO, *de Finib.* v. 16.

IN the foregoing chapters we have been concerned with knowledge regarded as a self-contained system; some analysis of which has been made without reference to any reality transcendental to one's own mind to which it may possibly relate. The point of view we have adopted has been that of a methodic solipsism. From that point of view we have considered the concrete events and facts which constitute the world of empirical reality; and we have seen that in objective knowledge the objects themselves as known are real. These, in respect of real occurrence, are indisputable, even to a solipsist. To be sure, introspection testifies that they may be more or less clearly known; but so far as they are known at all, so far as they enter into the objective system of knowledge, they are real objects. In the fully developed ontological theory

in which extra-mental objects (objects transcendental to the individual mind) are opposed to mental ones as their counterparts, the latter are commonly called 'phenomena.' The initial conclusion here to be drawn without prejudice is that mentally apprehended 'phenomena,' or apprehends, are real.

From the same solipsistic point of view we have considered also the abstract thoughts, characters, educed relations, correlates (and the constructs elaborated from them), which constitute the world of ideal or conceptual reality. With respect to these we have seen that their reality is based upon, and indeed as far as it goes (for it is often very inadequate) is identical with the reality of the empirical phenomena. The world of abstract thought is derived from that of empirical experience as cognised. In so far as thoughts are educed from experience their reality is that of the experience itself. In so far as they are derived as correlates from empirical experience, apart from such reality as they have as occurrents, they are also real in the sense that they may often be verified by reference to empirical reality; that events in empirical reality may often be deduced, or predicted, from them; that

relations between them and empirical items may often be evidential; and that, where none of these introspective criteria apply, they may still display the reality of necessary and internal consistency as changeless and self-identical exemplars or types.[1]

All these items of knowledge, empirical or conceptual, with the exception of the correlates, none the less leave us within the range of empirical experience actual or possible; and the correlates themselves still leave us within the system of knowledge. They do not take us beyond this to any transcendental reality. They have not justified our belief in any extra-mental world, nor given us any avenue of escape from a particularly vicious form of solipsism. They are all phenomenal, empirical and conceptual items of knowledge alike, in the sense of being appearances in knowledge, which may or may not have reference to some other realities independent of our knowing of them.

Throughout the exposition given in the previous chapters, however, we have had more than one occasion to make reference to the Self and to the immediate knowledge which we have of it.

[1] *Vide supra*, p. 122.

In this unique kind of knowledge which is the lived and known experience of the Self we shall find the key to the problems of epistemology, at any rate from the standpoint of Psychology. The present chapter, accordingly, will be devoted to an examination of that knowledge; the knowledge which each one of us has of himself. It will be concerned with an analysis of Self-consciousness.

The primordial fact of knowing, as we have seen, consists in the cognised experience which may be stated, and only may be stated, in the form of such a judgement as: "I know something." That judgement expresses a concrete relation of an altogether peculiar—in fact, of a unique—kind between a knowing Subject and an object known. The judgement, to be sure, is also a knowing; but it is not primordial. The original lived and cognised experience anterior to the explicit judgement is in some sense an identification of an object with the Subject. The important point to be stressed here, however, is not so much the nature of the relation, as the fact that in knowledge there is always the Subject to which objects are related. The lived and cognised experience whatever it may be—cogni-

tion, affection, conation, volition, or the like—is always an experience to an 'I.' No matter how we state the fact of knowledge, this 'I' necessarily enters into our statement. I, conscious of myself as knowing, know something; I, conscious of myself as feeling, know myself feeling something; I, conscious of myself as willing, know myself willing something; and the like. That there is an 'I' in all knowledge is introspectively clear; and it is indisputable. No one, least of all the solipsist, will deny it.

But what is this 'I'? How do we come to know it? What sort of knowledge of it have we? We seem, apparently, to have to deal here with the central core of all knowledge and all empirical reality. How is it to be characterised?

In the first place, it seems to be clear that there exists a complex object known to each one of us empirically which we call our 'body.' Is this the Self? On introspective analysis, the complex object in question can be shown to consist of actual sensorial elements (tactile, visual, kinæsthetic, cœnæsthesic, for the most part), together with reproductions of similar kind, and relations by reason of which all these elements form a 'whole.' The 'body' is exactly comparable

with any other percept, or sensorial complex of empirical experience, with the sole exception that it seems in some very intimate manner to be connected, other than they are, with the Self. If we are to use the term ' phenomenal,' the ' body ' is a group of sensorial phenomena, sensorially related together. It is something that can be ' perceived ' by sight, touch, and the like. But we never, as a matter of fact, say, nor do we accept the statement, that the ' body ' is the Self. Alluding to the body or its parts as phenomenally occurring in knowledge (for we have not yet franchised the limitations of solipsism) we say : " I have a body. This is my hand, my arm, my head," and the like. Clearly, since the ' body,' even though in a peculiar way ' mine,' is a part of empirical consciousness, its reality is that of the empirical world itself ; and it cannot, any more than any other part of that world, help us to transcend it.

But the ' body,' even if in the long run it should turn out to be part of the Self, or even an aspect of the Self, is not the Self as Subject of knowledge. We never properly say, nor do we ever literally mean : " The eye sees, or the ear hears, or the brain understands " ; but : " I see, hear and understand."

Likewise we never speak of 'my body' feeling, knowing or willing, but 'I.' What is this 'I' which 'owns' the 'body,' which feels and knows and wills?

The 'I,' implicit or explicit in all knowledge, may also be called an empirical Self, since it is consciously experienced. It is not merely something inferred from experience, but something immediately lived and immediately known in experience. Accordingly, in so much as known, it may be said to be phenomenal; for Self appears to Self in knowledge. But though in this sense phenomenal, it is non-sensorial. As lived in experience, and so known, it can be expressed in no sensorial terms (visual, tactile, kinæsthetic, or the like); nor can any sensory elements be introspectively analysed out of it, as sensory elements can be analysed out of the complex which we call our 'body.' Indeed, it is not experienced as a complex in any such sense, but as a fundamentally simple or incomplex existent. As immediately known in experience, it is that to which reference is made when one says: "I have a body; I think; I feel; I will."

The statement just made needs elaboration. From it it would seem that the Self is indeed

a complex existent, since it is experienced as active in having, willing, feeling, thinking, and the like. These activities seemingly cannot be reduced one to the other. To possess or to think is not to will nor to feel. Accordingly, it would appear that real distinctions must be made within the Self; and thus that it is in fact a complex.

The difficulty arises from a confusion of the Self as immediately experienced and directly known in experience and the Self as we conceive it to be; a confusion between an immediate apprehension and a subsequent construction; between the awareness of Self and the concept of Self. This latter will be considered in a subsequent paragraph. It is the former only with which we are here concerned. And this—the Self as immediately known in experience—is directly apprehended as a 'that,' not as a 'what.' The knowledge is a knowledge of existence, not of essence; it is a knowledge of acquaintance with Self as object not a knowledge about it. In every pulse of such knowledge the Self is apprehended directly as it is, energising in this or in that way. It is a Self apprehended as knowing something, as willing something, as

feeling something, and the like. But it is not experienced, as we shall see the concept represents it to be, as something capable of energising in these and in a great variety of other ways; as something, in other words, conceived as a complex nature. It is immediately experienced only as it actually energises.

In contrast with sensorial objects in knowledge, this experienced object is unique; involved as it is in all knowing as its Subject, in all feeling, all striving, and all willing. No one ever, despite sophistication, disputes this reality; the reality of the Subject given as object in all knowledge. It is precisely in this that the unique peculiarity of the Self as known consists; namely, that it *is* Subject. Everything else is object, and object alone; all sensorial experience including the 'body'; all conceptual abstractions and constructs, including even the concept of the Self. These are all objects in knowledge and are never Subjects. Self alone as known in experience is at once both Subject and object.

And in this fact lies the unique reality of the Self as contrasted with all other experience. It is lived and known as real since as object it is identical with Subject. Here the relation of

identity in knowledge is an absolute one; and not merely the conceptual relation of a thing with itself such as was considered in chapter V. The knowing Self and the known Self are absolutely one and the same. There is no real or ideal but only a logical distinction between them.

Accordingly, if the terms may be used, in this unique case the phenomenon is the noumenon. The appearance is the reality. The Self known is the extra-mental, the transcendental Self as it exists at the moment of knowing. We have here, in our knowledge of the Self, direct access to a thing-in-itself, as it is in itself. But it is not a sensorial knowledge as is our knowledge of empirical phenomena. It is the intellectual knowledge of pure intuition; as well as being at the same time empirical; for it is experiential. In this immediate, intuitive awareness of the Self as real existent we have the key to the problem of the real, extra-mental, transcendental, existence of things other than the Self.

The foregoing is not a logical analysis, but a psychological one. It depends entirely upon the evidence of introspection; and it stands or falls for each one of us upon that indis-

putable evidence, from which there can be no appeal.

How is it, then, it may be asked, that what should in the nature of the case be such striking evidence could ever come to be overlooked? How comes it that philosophers and psychologists have been able to dispute and deny such evidence, not only with regard to the subsistence of the Self as immediately experienced in knowledge, but even with regard to the occurrence in knowledge of any Self at all other than the phenomenal awareness of the 'body'? For such disputes and denials have occurred, and frequently; and upon them whole systems of philosophy have been erected. Indeed, some comparatively recent experimental work in psychological (introspective) analysis has been advanced as leading to the conclusion that what has been explicitly reported as true Self-knowledge is in reality no more than the awareness of a mass of kinæsthetic and cœnæsthesic sensations; that those many investigators who have reported awareness of any Self other than this have failed to analyse their experience sufficiently.

This is not the place to enter into any controversy; and, indeed, every individual must

necessarily settle the matter one way or the other in the light of his own personal insight. But it may be noticed that at least some of the very difficulties which stand in the way of admitting the insightful apprehension of the profound and ultimately real Self themselves provide strong arguments for its actual, if even only obscure, occurrence in knowledge. One of the reasons why, in many experimental investigations which have been carried out with regard to mental processes, the Self has been so rarely explicitly reported is that, if it were present at all, it must invariably have been present. No kind of knowledge is possible without a knowing Subject; and all introspection is a kind of knowing. We are always aware of Self; but this very fact tends to obscure that awareness. What is universally and invariably lived, and even known, tends to be unnoticed. Thus the miller tends to be focally unaware of the noise of his grinding mill-stones. Thus, without a certain amount of training in introspection and a knowledge of that for which one is looking, one tends to be unaware even of his general cœnæsthesis. Accordingly, since one is always in knowledge conscious of his profound Self, he fails to attend

to it. Moreover, since by hypothesis we can have no single negative instance in which the Self does not occur in knowledge, we are very likely to overlook it; and certainly often do.

There is the further consideration that most introspective work undertaken in strictly controlled experiments (upon which one prefers to rely rather than upon hap-hazard introspection) has been aimed at the investigation of problems connected with sensory and thought processes which are of an objective kind. It is not astonishing that in such researches awareness of Self should have been submerged by the emphasis laid on the objective processes actually investigated. None the less, even in such researches (as, for example, into concept-formation, judgement, memory, and the like) awareness of Self has been reported, not only implicitly in the form of the language necessarily used to make the protocols, but often explicitly also.

Not all research, however, has been directed upon problems of sensation, memory, thought, judgement, and the like. It is more particularly in experiments directed upon problems of the will that the immediate awareness of the Self has been explicitly asserted. But, even here, there are

many reasons why it should not infrequently be missed. To quote from a previous paper of my own: "Of the greatest introspective importance in this regard is the fact of the narrowing or shrinking of the field of awareness to the precise operation in hand at the moment. This is very striking in all introspective work; and in my own observations, mainly on processes of conception and choice, it was markedly so. During the period of deliberation in choice, for example, rarely were any processes focal save cognitive ones connected with the alternatives; bodily strains, kinæsthetic images, imageless thought, and the like, sometimes coloured by affective factors. When the Self becomes momentarily focal all these processes cease. But, in any case, the Self tends to be marked by other processes of a cognitive or affective character; and this according to the nature of the instruction given to the Subject. Moreover, the bodily strains, images, etc., are prominent not only because one is actively attending to them but also because they are relatively full of content. The Self—at any rate in the experiments to which I refer—is, when focal . . . relatively empty of content, very fleeting, and readily displaced from the focus by

objective processes especially of a sensorial character. It can, however, quite well be distinguished from these." [1]

It might seem that in the foregoing paragraphs I was attempting to beat a dead horse; that there was no need to bring forward arguments to prove what every one knows perfectly well, namely, that he really exists and feels and thinks and wills. Is it not enough to appeal to each man's Self-consciousness and have done with it? Is it possible ever to go beyond the evidence and proof of such an appeal?

Surely the answer to such questions must be that the evidence and proof of the appeal must be final; but that, at the same time, the matter from the epistemological standpoint is so urgent that we can afford to make no mistakes; and that the mistake is possible (since it has been committed) of confusing the empirical Self which we call 'body' with the profound and ultimately real Self which knows and feels and wills.

It is almost a commonplace of some systems of psychology and of many systems of physiology to look upon consciousness literally as no more

[1] *Cf.* "The Standpoint of Psychology"; *British Journal of Psychology*, Jan. 1926.

than neural change, and in particular as that form of neural energy which is connected with the synapses. Sensations and thoughts, it is said, *are* synaptic energy in the afferent tracts; and feelings and motations *are* synaptic energy in the efferent tracts of the nervous system. The Self as known *is* such physical energy, or at least a parergon of it.

To be sure, these efforts at explanation rest upon no direct or immediate evidence, and are highly speculative and theoretical. Such appeal as is made must certainly be made to Self-consciousness; but for epistemological purposes it is useless to appeal to the kind of Self-consciousness which is merely phenomenal; and still less to one which is not even a phenomenon but a mere speculation. Like the remainder of consciousness, taken in the associationistic sense of a collection of contents and states, the 'body' is a phenomenon to the thinking Subject; possibly even the phenomenon *of* the thinking Subject. It can neither be the ground of the subsistence nor of the activity of this. Still less can an 'energy' which is not even directly empirical in any sense constitute such a ground. Neither can the 'body' nor any such postulated neural or synaptic

'energy' in any way form the link between the worlds of empirical and ideal reality, on the one hand, and a world of transcendent reality on the other. If this is all we have, we shall remain forever solipsists. The Self-consciousness to which appeal must be made is no consciousness in this sense, but is that immediate awareness of the profound Self which is the Subject of knowledge. Better still, the appeal is to the profound Self which is the Bearer of feeling ; and, best of all, to the profound Self which is the Agent in willing. Full and true Self-consciousness is the awareness of Self as a unitary being ; and there occurs no such immediate awareness of the Self except as knowing, willing, feeling. This consideration brings us back to what was said above as to the simplicity and incomplexity of the Self as immediately known.

This clearly does not and cannot mean that the Self as immediately apprehended in experience is apprehended as an inert, or even active, entity which is simple or incomplex in the sense that its inertia or activity is identical with its very being. For this is clearly not so. In the first place, introspection attests that the Self is never apprehended as inert ; it is always active when in any

way cognised. And it is always, when known, known as active in one or several of the three modes of feeling, willing, or knowing; certainly at least in the mode of knowing. The experimental work on the will to which reference has been made fully bears this out. When one resolves or determines to act in any way—to move a limb, to remember a name, to make a choice, or the like—over and above much else, there is always awareness of Self resolving or deciding in reference to an end determined and cognised. Generally, though not always, there is awareness of affective feeling suffusing the Self as volitionally related to the end consciously proposed. ['Generally, though not always,' is a caveat inserted because in the affective pleasure-unpleasure couple there appears to be a neutral point at which the Self neither enjoys nor suffers.] But in such acts as resolving, determining, deciding, the Self is known at least both as willing and knowing.

Not therefore, however, is it known as complex or compounded. On the contrary, it is experimentally known as simple. The metaphor that suggests itself to describe this experience is 'punctiform' or 'punctual.' But such metaphor

is a far-fetched one, since the experience is in no sense whatever spatial, even as the limiting case of a superficies or line. Rather must we turn for descriptive purposes to such terms as ' subsistent ' or ' substance,' despite the undeserved obliquity of those eminently respectable terms. The Self, as known in experience, is a subsistent reality, a substance or actuality which, while in itself simple (and, indeed, in that aspect, utterly incomparable with all the apprehended items that go to make up the world of empirical reality), energises in distinct ways. It is from this immediate awareness of the subsistence or substantiality of the Self that our notion of substance is derived and analogically applied to other experiences ; and not from any awareness of the substance, say, of material things that the notion is drawn in order to apply it to ourselves. If we look upon a lump of gold, or a tree, or a horse, as substances, it is not because we have any direct intuition of reality lying behind their phenomena ; but because we interpret the phenomena in the light of our immediate insight into our own subsistent Self. This Self, insightfully apprehended, even though apprehended as willing and knowing and feeling (and therefore forcing us to make a distinction

between it as ground of these activities and the activities themselves) is an incomplex, at once immanent and transcendent, 'real'; and indeed it is the only one to which we have direct access in experience; for it is the sole and unique Subject of all experience lived and known.

Only to emphasise what has been said in the previous paragraphs, and at the same time to avoid a possible source of confusion, is it necessary to draw here a precise distinction between the immediate and insightful experience of the Self and the concept which we form of ourselves. This latter is a highly elaborate product of conceptual analysis and synthesis; an objective content of consciousness, like the notions 'man,' or 'animal,' or 'living being,' and the like; but having a peculiar reference to the Self of immediate intuition. The intuited Self is a bare entity acting in some way. "There is no hint of awareness whatever as to what the entity may be. It is just an existent acting; no more." But the concept of Self is a peculiarly rich and full one. We conceive of ourselves as conscious organisms, acting and capable of acting in a very great variety of ways; as microcosms, obeying physical, chemical and vital laws as well as laws

of consciousness, some in common with other organisms, others peculiar to ourselves. We conceive ourselves as having had a past (which clearly, at the moment, is not actual) and as destined to a future with which we are busily occupied in the present. In short, we construct out of our experience a complex notion of our Self which never is or can be Subject, but only object to the real Self of immediate life and knowledge. There is a vast difference, introspectively evident, between the insightfully apprehended concrete Self as lived Subject to all possible objects and the concept of Self which can never be more than an object to it.

The distinction between the immediately apprehended Self and the concept of Self, given in introspection, is perhaps even more pointedly emphasised by a further consideration. We can and do, even as solipsists, form the notion of other Selves on the analogy of our own. Perhaps they are only parts of our own knowledge; but we certainly have them as notions. These Selves we look upon as conscious organisms, obeying all the laws of microcosms as we do, sharing with us the capacities of feeling, knowing and willing: in short, with minor details of difference, our

concept of other Selves is specifically identical with that each one of us has of his own. But the immediate apprehension of the Self is absent in the concept, whether it refer to oneself or to some other. Other Selves are purely objects, and are entirely phenomenal in knowledge; Self is Subject, and noumenal as well as phenomenal.

In it, as lived, experienced and known, each of us has a (psychologically) absolutely subsistent real at once immanent in and transcendental to knowledge.

It is this psychologically absolute and subsistent real, immanent and transcendental, that allows us to franchise the boundaries of solipsism, endow the worlds of empirical and ideal reality with transcendental meaning, and pass beyond the experience of an intra-mental world to the extra-mental world itself which is experienced. The real Self is the epistemological *πού στῶ* for all Reality.

Throughout this book use has been made of the noegenetic principles as formulated by Spearman, and in particular of the third principle, the far-reaching discovery of which is due to him. Our

previous chapters have abundantly illustrated the fact that we tend, in virtue of the application of abstract relations to any item of experience, to evoke further items correlated with the original one. Thus, if we apply the relation 'opposite' to the item 'black,' we evoke or tend to evoke 'white'; or if we apply the relation 'like' to 'emerald' or 'ruby' we tend to evoke some such item as, say, 'sapphire.' It is true that this evocation may be merely the recall of an opposite or like item from past empirical experience; but it may be also the creation of an item never in any way experienced before. The case, that is to say, may be one not merely of noetic reinstatement, but of true noegenesis; of which examples, both from the perceptual and the conceptual plane, have already been given. To be sure, the principle is no more than one of noegenesis; that is, it renders an account only of the appearance in knowledge of items not necessarily in any way previously experienced. But that already takes us far upon the road that leads to the transcending of knowledge, considered as a uniquely personal mental system. It explains the appearance in knowledge of items belonging of necessity neither

to the world of empirical experience nor to the world of ideal reality; items, that is to say, which are looked upon as reals independently of our knowing them; items which, as known, are this red triangle or that green circle, redness or greenness, triangularity or circularity, and the like, in any degree of simplicity or complexity. These, as forming part of the system of knowledge, are spontaneously referred to extra-mental reals, directly or indirectly. The abstract concepts are referred, in the first place, to the empirical items, and these, in their turn, are referred to metempirical reality; the process, in the first instance, being one of discovering relations of identity, and in the second, of applying further relations to the items in question. Thus, to concern ourselves with the second process, which is our sole interest here, the application of the relation of numerical otherness to the immanent-transcendental Self generates the items 'other Selves'; and, together with the relations of similarity and dissimilarity in various degrees and respects, the same relation of otherness can generate transcendental items varying from those specifically identical with the Self, on the one hand, to those conceived as utterly inert as well

as to those conceived as utterly active on the other hand.

Such mental operations, as has just been said, are spontaneous. Before we reflect upon them or formulate any principles in their regard we are already in possession of their products. We have found our extra-mental world long before we begin to reflect upon it, or upon the way in which we came to believe in it. The theoretical problems which we set out to solve were already solved in practice before they came to be formulated. We are in fact naturally realists before we can methodically become solipsists. Nevertheless, when difficulties of reflection lead us to the solipsistic position, we discover in the psychological principles of noegenesis the first step upon the road to escape from it. It is by means of them that the first barrier across the avenue to transcendental reality is thrown down, and the psychological approach to it laid open. The real Self transcends both its empirical and ideal knowledge and its own Self and so passes to a realisation of the Other.

It may be urged that the foregoing consideration leads us to no world really transcendental to knowledge at all, but only to the thought of one.

And, even so, it only leads us to that thought by means of a principle entirely personal; in virtue of a law, possibly even only a caprice, of our own individual being. Here there are two objections to the view of transcendence by way of noegenesis. The second misses the point if it means that the law should operate and be known as operating in any other than a personal way. By methodic convention the law must be within the personal and incommunicable knowledge of each one of us. It would be absurd to ask for a demonstration that it operates or is known to operate elsewhere. The first objection is no more serious unless the point has been missed as to what transcendence by way of noegenesis means. It means that we do think, as beyond the scope of the world of empirical reality, a real world which, as such, can never be empirical. But, of itself, it does not prove the absolute existence of such a world. That we do think extra-mental reality, and spontaneously, is indisputable. We think it as something external to and independent of our knowledge; as something upon which in some way our knowledge, both empirical and conceptual, depends. Without itself transcending that system of knowledge, the third noegenetic

principle renders a psychological account of the manner in which the transcendental is reached by thought. Noegenesis accounts for the fact that we do think not only phenomena and their derivatives, concrete and abstract, within knowledge (i.e. products of the first and second principles), but also real extra-mental noumena. These last, of which the phenomena are held in some way to be the mental counterparts, we at least think of as independent of our knowing. The fact that such a world in reality exists, independently of us and of our knowing of it, is immediately evident, not in the constructions of the noegenetic process, which gives account of our knowledge of it, but in the insightful experience of the Self as Will.

In the chapters in which hypothesis and necessity were discussed we saw that we have an immediate awareness of the Self as causal; and that from this immediate experience our abstract concept of causation is derived. As cause, the profound and real Self stands in a relation to items of the empirical world, in which the latter change dependently on acts of volition. I will to move my hand or recall a name. Conations introspectively continuous with the volitions ensue; and the

causal course of consciousness (empirical content) is affected. As has been shown, this experience is in fact that of the Self-causing. In the experience, there are two terms in a relation which is continually changing. But the causal relation, thus immediately lived and apprehended, can by the third noegenetic principle be reversed, in such a way that the Self becomes the effected and the items of empirical experience the agents. We can certainly think ourselves affected by others. Moreover, though we can never immediately apprehend any other real being than ourself as either existent or causal, we certainly can and do both live and immediately apprehend Self as passive as well as active. Not all mental process is volitional. Passively experienced impressions rise in consciousness, fade away again and disappear; items come and go as objects to the Self-subject in the absence of volitional activity—even despite Self-activity put forth to counteract them. These experiences are no less striking than the voluntary ones, and no less patent to the immediate insight of introspection.

But what are the impressions in question? Nothing more than the phenomenal items that together make up the world of empirical reality.

They are in no sense transcendental, nor can they be conceived to be transcendental to knowledge. How then do they help us to pass beyond themselves to any transcendental world? Surely in virtue of the principle of causality itself; a principle both lived and insightfully known in the activity of the profound Self. This, as we have seen, is at once immanent and transcendental in its causal activity. We apprehend it directly as cause. We now see that it is also directly apprehended also as affected; i.e. as (at least in some respects) an effect.

The principle of causality is an objective and a real one; since it is an abstract educt derived from the real Subject-object Self. It is no mere thought correlate, which may or may not be existent. As a real cause, and not the mere abstraction of a cause, is immediately apprehended in the immanent-transcendental Self-willing, so a real effect is apprehended in the immanent-transcendental Self-sensing. Accordingly, though the empirical items in knowledge such as apprehends and percepts are clearly not extra-mental, their real cause is not the Self, but an Other or Others. The real Self acts upon a real extra-mental, a transcendental, world and in turn is

acted upon by it ; such action and reaction being manifested by phenomenal changes in the world of empirical reality.

At this point the principles of noegenesis and reality coalesce. " In the form of the basic fact, *I have something*, part of Reality knows *itself as it is* and the rest in the form of *appearance*." [1]

It is not necessary to develop the argument further in this chapter. What, it might be asked, is this transcendental world like in itself ? But such a question would be a peculiarly otiose one if it means : " What can it be like other than in relation to ourselves? " ; for it could have for us in such a sense no meaning whatever. The only sense in which the question can have meaning is : " What can a real world transcendent to knowledge, yet which appears in knowledge as a world of empirical experience, in itself be ? " And the answer here must be that it is the source and cause of all empirical experience ; that empirical experience is its appearance and the guarantee of its reality as actually existent. It may be that in itself it is no more than parcels of matter in motion, or immaterial forces acting at points,

[1] Driesch, " The Crisis in Psychology," p. 160.

or a spiritual entity or entities actualising apart from any categories of time or space. These concepts, and many others, have been advanced as accounting for our empirical knowledge; and they are all concepts which can be shown to be derived, either by way of the eduction of relations or by way of correlates, from experience.

But the only position of which we can be certain, of which in our Self-experience we seem to have immediate insight, would seem to be that there exist one or several transcendental realities, as real as we ourselves, which act upon us as causes, just as we ourselves act as causes upon them. And this, without attempting to answer unanswerable questions or to define what by definition is absolutely unknown and unknowable, would seem to be enough for all our purposes.

To consider but one example of the indefinite number that goes to make up the empirical world, I perceive a plant growing in a pot. Neglecting all in the percept that may be said to have been derived from past experience, there is the actual apprehend. This is a composite of visually displayed shades of greens and reds; of tactual coolness, smoothness, extension and

the like; of fragrance. It is located spatially and temporally; and it behaves in various ways. All this, and more, is the empirical experience; and, as such, real.

But there is more than this. Spontaneously we attribute these appearances to a transcendental reality behind them. It is a plant, not mere red and green, fragrance, smoothness, and the like which we apprehend. The spontaneous application of the relation of causality to the empirical data outstrips our analysis; and we have the plant before we understand how we reached it. Moreover, the plant it is which affects us precisely in these ways of vision, tact, and the rest. We are not precisely so affected by other causes. A sovereign is not green or red, fragrant or growing in a pot; a human being behaves otherwise than plant or sovereign. Empirical differences point to different causes; and straightway we have a transcendental and pluralistic world which gives a full account of our experiences. Indirectly, it is true, we may to some extent refuse to allow ourselves to be influenced by the transcendental world. We may voluntarily close our eyes to the plant, and so have no passive visual experience of it; we may withdraw our hand from the

sovereign and no longer experience its weight. That is to say, we can voluntarily act upon our own bodies in such wise that, in empirical experience, the relations between them and other percepts cease to hold good; and the percepts in question disappear. Further, we may voluntarily withdraw our attention from them; in which case they will sink to the margin, possibly even beyond the margin of consciousness, so that we may no longer be aware of them. We have only, however, to open our eyes, or to attend, and we suffer them again.

Now, it has been shown that, in virtue of the reality of the Self and the real objectivity of the principle of causality, we know certainly that transcendental reality exists, and that it affects us in the form of items of the empirical world. It has been shown that transcendental reality is in our regard a cause or causes, and essentially causal as far as our empirical experience is concerned. Its action, in this respect, is the production of empirical experience. Accordingly, since items of empirical experience differ among themselves and are irreducible one to the other, we may conclude that their causes also are different one from the other. And we may even

claim to know with absolute certainty of these transcendental causes this, that they do affect us, each according to its transcendental nature, and either individually or in their interaction, in this or that definite way.

Moreover, we can know with certainty that they are adequate to their several effects. Thus we can identify them by their actions upon us, either singly or in combination. We can identify 'iron,' say, and 'water' because of their appearances in empirical reality which are effects of their causality. We can establish the law 'Water rusts iron' as a law of their natures because we can observe the changing relations that develop during oxidation. And in like manner we can deal and, as a matter of fact, do deal with all the items and events which conspire towards the constitution of empirical consciousness. In this empirical consciousness there are not only items such as iron and water, plants and animals; there are also human beings. In precisely the same way we reach the real existence, and the certain knowledge of the real existence, of these. But the transcendental nature of these real beings, like that of any others, can only be an inference from the fact that they too are causes accounting

for their appearance and characters within empirical knowledge. Our knowledge of the existence of these is ultimately grounded on our immediate and insightful awareness of Self as immanently and transcendently real. Our knowledge of their identity of nature with our Self is due to the principles of noegenesis.

We have franchised the boundaries of solipsism. We are Realities in a Real World ; and we know it.

THE PSYCHOLOGICAL CRITERION OF TRUTH

CHAPTER VII

THE PSYCHOLOGICAL CRITERION OF TRUTH

"La volonté est un des principaux organes de la créance; non qu'elle forme la créance, mais parce que les choses sont vraies ou fausses, selon la face par où on les regarde."—PASCAL, *Pensées*, III., 13.

THE psychological analysis carried out in the previous chapters has led us finally to a world of real existence transcendental to the worlds both of empirical and ideal reality. We ourselves, at once immanent in and transcendental to our knowledge, are and are known to be real existents in that real world and related to other existents as causes or as effects in the modes of feeling, knowing and willing. These modes consist in real, objective relations; they are causal relations mediating real fundaments, the Self on the one hand and other existents in their aspects of beauty, truth and goodness on the other. We are not in this place concerned to examine the problems either of beauty or of goodness; but we are concerned with that of truth. We set forth on our quest for reality, spurred on by the insistence of

doubt and our persuasion of the occurrence of error. That such doubt was a possible mental experience and that we could conceive of error as opposed to truth already showed, even in that initial statement of the problem, that we possessed some means, no matter how rough and ready or how unreflecting, by which we were able at least provisionally to distinguish between the true and the false, between legitimate and illegitimate reasons for doubting. Notwithstanding the fiction by means of which we placed ourselves methodically in the attitude of real, universal yet negative doubt in regard to all items of knowledge without exception, from the very outset we did not indeed doubt everything; nor did we hold all knowledge possibly to be infected with error. For there are and were matters in regard to which we do not and cannot doubt; which force themselves upon us with conviction.

Now that our analysis of Reality has been made, we may turn from these spontaneous certainties and doubts, from spontaneously accepted truth and spontaneously rejected error, to an examination of the characters of reflective knowledge which differentiate truth from error in general, and so may help to explain the occurrence of our

doubts and certainties. To do this is to enter upon the problem of the criterion of truth. It is to seek to discover within knowledge the mark or guarantee of its equation with transcendental reality. For this is what we mean by truth; that knowledge in some way conforms to one or several extra-mental realities which exist in their own proper natures independently of the fact that they may be known by us.

It is to such extra-mental realities that knowledge refers. But these, as we have seen, exist and are known to us only as causes of our experiences. We cannot within knowledge encompass them as they may exist in themselves transcendental to knowledge in order to establish any relations of likeness or difference between them. What they are in themselves is beyond us, except as causing this or that discriminable experience. By their effects only we know them and judge them.

These effects are entirely, however, as far as we are concerned, within knowledge; indeed they constitute it. And it is in the relation of the effects, and of their derivatives, one to the other, that we discern truth and the criterion of truth in regard to their causes.

Just as we have seen that certainty, belief or insight are mental characters which affect us subjectively when we judge, and only when we judge (either explicitly or implicitly), so we have also seen that truth is an objective character which is never formally encountered except as affecting judgements. We find on introspection that it is with regard to judgements alone that we spontaneously distinguish the true from the false. There can be no truth whatever in respect of a single (absolute) item of knowledge of any kind. To suppose that it were true would be to attempt to relate it to some other item to which it might be true, and so make it absolute and relative at one and the same time. Truth, accordingly (and likewise error) is a character of the relations which are expressed in judgements. That judgement is true which expresses the relation embodied in it as it is in reality; and a judgement expressing the relation in any other way is a false one.

Judgements as mental events have, as their terms, items within the structure of knowledge, items of empirical and ideal reality on the one hand and items transcendently existent, but known as causes of these effects, on the other. It is indeed only in reference to transcendental reality

that we hold our judgements to be true or false ; but the basic characters of truth are already to be discovered in the relations and interrelations between items in the worlds both of empirical and conceptual reality ; and the criterion of truth is to be found (indeed only can be found) within the structure of knowledge itself. Any available criterion must be internal, intrinsic, inherent in the knowledge of which it is the criterion. Doubtless, there may be many provisional criteria of truth. Several have been advanced in one or other historical system of philosophy ; dogmatism, traditionalism, common sense, sentimentalism, fideism, pragmatism, and the like. Some, or all of these, may even serve our practical purposes ; but no one of them goes wholly to the root of the matter ; for it has to be shown why any one of them should be true. The reason why they may serve even as provisional criteria is the fact that there is an ultimate criterion lying behind them or within them.

This leads us to a further short introspective enquiry. What, as a fact, do we discover to be the characters of those judgements of which we are spontaneously certain ? Does a reflective knowledge of such judgements justify these characters

as a criterion of their truth? On reflection we discover that we are certain of those judgements the relation between the terms of which is immediately and inherently evident. We discover that it is such evidence, insightfully apprehended, that compels our assent. This seems to be abundantly clear when we examine any judgement in which a relation is expressed as between two empirical or two ideal items, or between one empirical and one ideal one. Consider the first case. Abstraction made from any reference they may have to transcendental reality, two empirically apprehended items can be considered as referring to nothing other than themselves and being just what they are—say a red triangle and a green circle. As such, relations consciously emerge between them. In respect of the mental occurrence of either of these items there can be no question of truth whatever. They just occur, or exist as two empirical items in knowledge. But they are cognised in manifold relations; relations of difference as to colour and shape, relations of similarity as coloured surfaces, relations of temporal simultaneity and spatial position, relations of unity and plurality, and the like. These relations, so far as they are apprehended in

empirical experience, are apprehended in exactly the same way as the related items themselves, immediately, intrinsically and objectively. And, as thus apprehended, they are true in the only sense in which truth can be said of anything at all ; namely, that any other assertion about them than that they are as they appear to be is false. There can be no more question as to the relatedness of the items of empirical experience within knowledge than there can be as to the occurrence of the items related. Knowledge in this case is the exact equivalent of existence.

A precisely similar consideration holds good of items of knowledge belonging to the ideal order. These, no less than the empirical items just considered, are fragments of objective knowledge. The abstract concepts triangle, circle, animal or man are as much objects conceived or thought as the concrete, empirical triangle, circle, man or animal are objects perceived with all their individualising characters in space and time. The abstractive neglect of the individual characters does not falsify, or render such concepts less objective than, though it may lessen their adequacy to, the empirical items from which they are educed.

In exactly the same way as relations emerge between apprehended empirical items, so relations may emerge between these conceptual ones. *The* triangle and *the* circle, both of them conceptual existents within the structure of knowledge, together with such relations as are apprehended between them, are all on precisely the same footing. Relations and fundaments alike are apprehended immediately, intrinsically and objectively. Here again, as in the case of the empirically apprehended items, the constatation of the items in relation is true in the sense that any other assertion about them than that they are as they appear to be is false. Here again knowledge is the exact equivalent of existence. The conceptual items are so and the observed relations are so, as they appear to be.

Similarly, relations between empirically apprehended items and conceptual ones may display the same characters of immediacy, inherency and objectivity ; and when these characters are present we hold that our judgements are true. It is in every case by evidence and insight that we test truth ; and on these we ground our certainties.

The line of thought so far developed might seem to make error impossible of occurrence. Empirical

objects and concepts in any way derived from them are seen in fact to be exactly what they appear to be in knowledge; and all relations of whatever sort apprehended as obtaining between them accordingly are true. Appearance equates with reality. All knowledge is certain, and there is no room for doubt.

And this is true so far as we have gone; yet error is possible, for though we may agree that truth is to be discovered fundamentally in the relations of empirical and conceptual items of knowledge, formally it is in no way to be found there, but only in the reference of knowledge to transcendental reality. Within knowledge itself, however, we have already discovered the criterion by means of which we do discriminate between truth and error; namely, the character of immediate, intrinsic and objective evidence with which certain of our judgements are affected. That this in fact is the criterion is in itself evident; and from it there is no appeal. If we should ask why we are certain of anything, fact or principle, or why we hold it for true, the ultimate answer we always give is that the objective evidence of the fact or principle in question determines our assent.

And if we should ask of what facts and principles

we are certain, our answer is of those facts and principles of which the objective evidence determines assent to the judgements embodying them. These answers hold with regard to ideal judgements as well as to empirical ones. They hold, too, with regard to mediate judgements, with the sole proviso that the evidence is step by step throughout objective.

Nevertheless, the fact that we are certain of some judgements, that some are true because of their evidence, does not preclude us from falling into error in regard to others. The fact that we need a criterion and attempt to apply it is itself evidence of the occurrence of error. How then, seeing that objective evidence must be a character either present or absent in the determination of every judgement, can error ever be assented to at all? How is it possible to explain its occurrence?

We saw in the previous chapter that, in knowing, we are causally related to transcendental existents which account for the empirical impressions we have termed apprehends. Fundamentally, all knowledge is an affection of the Self; and primarily it is an effect of transcendental reality upon us. But not all knowledge is the effect of transcendental reality here and now acting. The

immensely greater part of it consists in the subjective retention of the effects of such activity in the past. This we saw when we considered perception. A percept is not a simple apprehend, but, on the contrary, a mental product in which much supplementation is derived not from actual apprehension but from past experience. The block of melting ice which is 'seen' to be cold, solid, moist, and the like is apprehended merely as a two-dimensional coloured object. The fluttering rags which are perceived in the twilight as a ghost have a similar meagre core of actual apprehension. And memory, as a storehouse of innumerable apprehends gathered up and concepts constructed in a personal past, the recall of which is to be distinguished from the present apprehension of actual facts and events, is a still more impressive illustration of the same truth.

Not only the sensory supplements of perceptions, but the concepts which serve as terms in judgements also, are for the most part recalled from among past apprehends and past products of abstraction.

This recall from the storehouse of retained experience, either in its empirical or its conceptual form, in perceiving or in judging, may lead to

error. In both cases the fault lies in going beyond the evidence of empirical apprehension, and in referring to transcendental reality what is not its actual effect upon us; in reading into it what is in fact due to ourselves. Subjective contributions to knowledge may in fact form the bases upon which a given judgement is made, with the consequence that the judgement in question may be false when taken to refer to transcendental reality. Normally, perhaps, supplementation of a present apprehend from past experience in the case of perception, and the recalling of appropriate predicates in the case of formal judgements, may have perfectly valid transcendental reference; and the validity may be determined by further actual apprehension. The coolness, moistness and solidity of the supposed 'ice' can be verified by touch; and, if it is not so verified, the specimen is judged (and rightly) not to be 'ice'; for ice is cool and solid to the touch. If we should judge that a block of crystal or glass, which we perceive as 'ice,' will melt at 0°, we are judging not on the effect of the transcendental reality upon us, but on our own subjective contribution to it; and our judgement is a false one. We are going beyond the empirical evidence in making it.

Common illusions in which objects appear in the sphere of one sense to be other than they appear in that of another sense, or other than they are in fact, are to be explained on the ground of the same mechanism of subjective contribution to knowledge. The Müller-Lyer lines appear visually to be unequal in length; the straight stick immersed in water looks bent. These and like phenomena are due to confluence; which is a subjective affair. The apparently bent stick must be taken in its total optical situation, in relation to the laws of refraction, if we are to make correct judgements about it in that situation. We do not take the optical situation into consideration when we judge, not that it appears bent, but that it is in fact actually bent. We make our judgements on the apparently unequal length of the lines after having observed the whole figures; and the subjective perseveration of the figures apprehended as wholes, one longer than the other, flows over into our subsequent estimation of the stems. Both the stems of the figures and the configuration of the stick, in the circumstances, are as they appear to be. It is only by omitting the circumstances in making the judgements concerning them that error arises.

In such common illusions there seems to be little, if indeed any, influence of subjective factors other than cognitive ones. But there are very many cases in which faulty perception and erroneous judgement come about by cognitive supplementation due to the influence of conation and emotion. The fearful man sees apparitions in the dark and enemies lurking in every shadow by day. The lover impatiently waiting for his inamorata thinks he sees her again and again in the comings and goings of strangers in the crowd. These, and the like, are cases of gross illusion due to emotions and cognitive impulses; and there are many of less obvious character to be traced to similar parentage. In such cases subjective elements are contributed to objective impressions with the result of faulty perception and at least implicitly untrue judgements. Delusions are susceptible of like explanation, as being false beliefs motivated by subjective feelings. The man who sees in everyone a persecutor, or in himself the instance of supreme greatness, is an example of the working of a similar psychological mechanism. In this respect even hallucinations also fall under the same rubric. As in the case of illusions, so in that of hallucinations, there can

be no doubt of the occurrence of the mental content which constitutes the percept or subject of the judgement. The error does not lie in this, but in its wrongful reference to transcendental reality. What is in fact entirely subjective is falsely taken to be objective. The hallucinated person, like the dreamer, sees, hears, feels subjectively; his cognitions being determined by his emotions rather than by actual apprehends. The error lies not only in its wrongful reference, but in the utter lack of control by actual apprehends over reproductive processes, and over the eductive processes based solely upon them.

None the less, in these abnormal cases we see the possibility of utter belief and certainty being based upon subjective conditions largely brought about by disordered emotion rather than upon objective evidence. And these exaggerated instances only serve to stress the view that similar mechanisms may play a part in normal cases also. For often quite normal people (if there are any such) are certain, and think they are certain upon objective evidence, while as a matter of fact this is not so. How, then, if the sole criterion of truth is objective evidence, the subjective correlate of which is insight, can we

ever even hope to apply it? Theoretically, the criterion may be sound. Is it practically a possible one? For apparently evidence may sometimes be illusory.

This problem is a purely psychological one. How can anything else be mistaken for evidence and insight? The solution of the problem has been indicated more than once in the foregoing pages. It is found in the answer to the question: 'What else could be mistaken for it?" We have seen that there are two ways in which knowledge actually arises at any given moment. One is that of noegenesis, the other that of reproduction. As a matter of fact the products of both are generally intermingled, at any rate in adult life. Perception is not mere apprehension, but apprehension supplemented by reproductions from past experience. Judgement is not always judgement on purely apprehended evidence, but often it is contaminated by retentivity. What comes to mind, as it comes to mind, whether by apprehension or by reproduction, tends to be accepted and to be believed. To distinguish psychologically between noegenesis and retentivity may be exceedingly difficult, and often even impossible. But the only way to make the distinction in any

given case is, again, by evidence; by analysing the noegenetic and the reproductive elements in any process of knowing as far as is possible; by doubting up to the point of evidence, and giving the noegenetic principles full play.

In this both will and feeling have their influence. The intent of our thought is determined by our purposes; and purposes have reference always to ends we desire to realise. Our interests determine the matters to which we shall attend and those we shall refuse to entertain. Nevertheless, though purpose may control our thought and fix its intent, it does not fix the result of our thinking nor the content of our thought. Result and content are due solely to the transcendental realities acting upon us and to the laws of noegenesis and association. The principal part will has to play in the determination of truth, however, is not that of directing attention to the cognitive contents of knowledge, but of withholding assent to judgements about them until it is clear that such judgements are really motivated by their own intrinsic and objective evidence, and not either in whole or in part by our own subjective contributions to them.

This, of course, means that in many matters,

indeed in most matters concerning human affairs, we must be content with probabilities; for there are few truths that are, of all the mass of our beliefs, objectively evident. Our criterion cannot be applied with success to all the judgements that we hold; and hold even with certainty. But it can be applied with success to some of them; and the proof is that there are some ideal principles and some matters of fact with regard to which doubt is impossible; with regard to which error never arises; about which all men are agreed. Those principles and those matters of fact are precisely the ones which manifest the evidence of noegenesis. The source of error is the going beyond that evidence and assenting to judgements which do not manifest it. It is partly or wholly substituting reproduction, which depends upon subjective retentivity, for production; allowing apprehends, the relations between them, and the correlates generated by them, to be contaminated by subjective products due to the laws of association; and accepting as evidence these contaminated products, to which we give the assent of our belief.

The sole available criterion of truth is evidence and the insight we have of it. It is a criterion

wholly cognitive; intrinsic, immediate and objective. But, since the spurious evidence of mental products due to retentivity is possible of occurrence, prudence will suggest suspense of judgement until real and objective evidence is manifest. In this the will has its part to play in belief, though it can never determine our beliefs; that we should hold an open mind and suspend assent until not we, but facts and principles compel it. There is no error in the limitations of our knowledge any more than there is error in the limitations of our memory. It is only when, in the one case or the other, purely subjective additions are made to actual or recalled items or events that positive errors arise and we accept them. In many instances there would seem to be no certain psychological way of distinguishing between true and spurious evidence; and in those instances he is truly wise who gives to his assent no greater value than the evidence allows, who weighs one evidence for or against another, and suspends his judgement until insight is complete. "... veritas visu et mora, falsa festinatione et incertis valescunt ..."[1]

[1] Tacitus, *Annal.*, ii. 39.

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