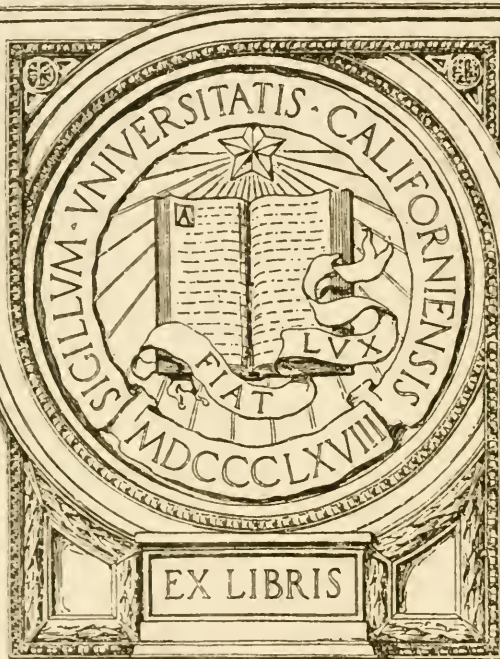




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REALITY AND TRUTH

REALITY AND TRUTH

*A CRITICAL AND CONSTRUCTIVE ESSAY
CONCERNING KNOWLEDGE, CERTAINTY, AND TRUTH*

BY

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οὐ γὰρ δὴ ἔγωγέ πω οἶδα ἀλλ' ὅπῃ ἂν ὁ λόγος
ὥσπερ πνεῦμα φέρῃ ταύτη ἴτέον
—REPUBLIC, III, 394D

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[Dedication]

TO

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AS A LITTLE TRIBUTE

OF

DEEP AND LASTING AFFECTION

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PREFACE.

FOR many years it has been my great desire to give to my fellow-countrymen, and, if might be, to the English-speaking world, a critical but definite treatment of the foundations of knowledge, truth, and certainty. No problem could conceivably be more insistent or more urgent. Like the piles that are driven deep below the surface of the water, unseen but necessary supports, the theory of knowledge upholds all. Whatever we attempt within the whole vast range of the theoretical or practical sciences, all depends ultimately upon our solution of the problem of knowledge. Thus whether we are interested in theology or natural science, in speculative philosophy or social work, in politics and economics, or art and literature, matters little. When one man sets out to think or two set out to agree upon some idea or plan, they invariably rely upon some accepted view of the limits and possibilities of our knowing powers, and almost invariably they differ. We all have some working theory of knowledge, however ill-defined and inarticulate. And there lies the danger.

These rough and ready philosophies of traditional acceptance, in which "ideas," "intuitions," common instincts, widespread fallacies and a robust sense of reality play their part, are often strangely indefensible

in matters of detail or even in broad outline. The systems of the schools may be even perverse. The inevitable result follows. In whatever we touch, difficulties and clashing diversities come to light with disconcerting rapidity. If we only plan the removal of a village pump, we find that the Sceptic, the Dogmatist, the Critic, the Intuitionist, and the Cynic will appear in our midst as from a thunder-cloud. If we attack a difficult problem in metaphysic, we hear at once the same chorus of voices; only the language is rather more stilted and less intelligible. It is above all things necessary, therefore, to make a thorough and energetic inquiry into the nature, scope, and possibilities of human knowledge. Of all the questions in philosophy, it is the most actual and the most enthralling. It is also the deepest, for in this study we touch the ultimate foundations of the whole fabric of reality and truth.

In this volume I have attempted to lay bare the last supports on which everything must rest. The questions are deeply technical, but at the same time of such abiding interest to all thoughtful men, that I have deliberately laid aside the technicalities as well as the useful but inhuman jargon of the multitudinous schools, in probing and establishing this doctrine of Critical Realism. This vision of the problems and their solution depends upon no name, no tradition, no authority, no assumption, no postulate. It stands or falls by its own intrinsic arguments, and by the plain facts which tell their own tale. For the rest I have endeavoured to set forth the whole sequence of ideas with all the clearness and precision of a geometrical proposition; while, as a lover of English, I have tried to remember the suppleness, wealth, and beauty of our language. There is little enough reason

why clearness in thought and structure should not go hand in hand with concision, simplicity, and grace of expression.

In general it will be found that the conclusions of our study are both precise and satisfying. Starting from nothing at all but the unceasing whirl of conscious events, we are led step by step, as we follow the facts, to see that there exists a real world of which we can have ample scientific and philosophic knowledge. Indirect as that knowledge must ever be, it is none the less secure. The foundations are of rock-like firmness. The theory of Kant which during the last century has dominated so many systems and inspired others is here laid aside. Judged by a long and systematic trail of positive fact and argument, that theory fails. On a closer internal scrutiny it loses all compelling power. Not until the whole critique of the Königsberg philosopher has in turn been criticized and rejected, shall we at last lay the spectre of the Humean scepticism, which has stalked abroad too long. This is my deepest conviction at the close of this study. My affinities in philosophy are not with Germany but rather with Greece, "whence the light came," and with England for its fine if somewhat confused appeal to experience.

I have written to defend no cause, to support no claim. My only object has been to conduct a faithful inquiry, without prejudice or polemical purpose; and, as the results are satisfying beyond all anticipation, to communicate them to those who have felt the sting—and who has not?—of these fateful, "anguishing" questions.

In these days when men speak much of reconstruction in so many different branches of our social, political, economic, religious life, when great efforts are being made

and new energies loosened, when mighty movements calling for heroic adjustments are sweeping us rapidly in a new future, when the ancient fabric of things has been shaken by the disasters and upheavals of these unsteady, whirling years, it may be well to pause and inquire, how far our knowledge is signed with the seal of truth. A bad principle, worse a thousand times, whether it be speculative or practical, than a bad action, may poison the wells of mankind for many years. An insecure or erroneous theory of knowledge, in which all the powers and possibilities of human thought are finally discussed, may be a disaster of the first magnitude. I would therefore commend to the attention of all who perceive the splendour, the fatefulness, the terror of these days of new beginnings and new schemes, this review of the facts of knowledge. Truth is indeed attainable, but only at the cost of much care and perseverance. Not by sudden intuitions, not by simple all-inclusive systems, not by violent reactions comes "penetration" of any "mystery" nor solution of any difficulty.

In conclusion I must own—I would that I might discharge!—my indebtedness and offer my thanks. To the friend to whom the book is dedicated, without whose help, encouragement, and loving interest, it might never have been written, I offer my very cordial thanks. Next I must thank my former master and distinguished colleague, Dr. Alfred Herbert, M.A., for his unfailing kindness and affectionate encouragement. He read all the book in MS.—I am not a very legible writer—and offered many useful suggestions. But above all I am sensible of the effect produced by his calm and generous appreciation of the work as it grew. The writing of many of the chapters was made both joyful and easy by

his encouraging words. To my distinguished friend Dr. William Barry, and to Canon Burton, kindest and best of men, I offer my grateful thanks, while I cannot pass over the names of my great friend, the Rev. Edward Myers, M.A., of my brother Frank, nor of my former pupil, the Rev. Arthur Reys, who checked the MS. with such good-will and diligence.

RUGELEY CAMP, CANNOCK CHASE,

19 *September*, 1917.

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CHAPTER I.

THE REALISM OF PLAIN MEN.

WE are all born with an unconscious objective bias which leads us to consider "things" long before we think of ourselves. Our sensations, our thoughts, our inclinations and desires all seem to point outward to a world of real things which differ from us, the spectators, and from one another in a thousand ways that baffle summary description. Spontaneously, intuitively, we grasp, or fancy we grasp, a world of multitudinous, complex realities, rivers and fields, hills and valleys, buildings, animals, flowers and trees, men and women. Probably long before we had learnt to grow accustomed to the limits of our own body, when, in the early bewilderment and wonder of babyhood, we knew neither who was who, nor what was what, we had an awareness of somebody—a mother or a nurse—who formed a centre of attraction. Tennyson expressed this "buzzing confusion" of our early days in the well-known lines:—

The baby new to earth and sky
Has never thought that "this is I".

But as he grows he gathers much
And learns the use of "I" and "me,"
And finds "I am not what I see
And other than the things I touch".

Moreover, true to this first type of apprehension, this reaching out towards somebody or something coupled with a blissful unawareness of our tiny selves, we seem destined to muse

about the variety and changefulness of the external world for many years, before we ever dream of turning our thoughts inward. In these early days, we seem, as it were, lost or merged in the scheme of external things, scarcely aware of our own kaleidoscopic consciousness; and during these days, apparently, there is formed in our minds a theory of thought and things which goes by the name of "crude realism". The bent of our own thought, and the pressure of received and consecrated opinion, converge and impel us to accept this naïf philosophy.

The things which interest us are coloured, and with our curious pertinacious bias, we attribute the colour, without further question, wholly to the object as though it lay like some enveloping veil over an unseen reality. In the light we see the colour, while in the dark it is shrouded from our eyes. One has only to strike a match, however, to perceive that "it" was really "there" all the time. Sounds too, which delight or annoy us, are thought of as realities, which are carried through the air, in some curious way, to our ear. We find no difficulty in discussing the sounds that break the stillness of desert islands. If we are within earshot, we hear: if not the sound—none the less a sound on that account—passes unnoticed, as the tick of a watch under the pillow of a sleeper.

Again, many of the things in which we take a not inconsiderable interest have tastes. Immediately we fly to the conclusion that the taste exists in the thing, like so many grains of salt dissolved in water. And so we might, if necessary, run through the remaining typical sensations to recall how "solid" and "objective" they are all supposed to be. In our early years none of us have any idea of the part that we ourselves necessarily play in the make-up of our own sensations, and even in later life only very few of us attempt to adjust our first impressions. We are convinced, in fact, that we have nothing whatever to do with the making or unmaking of the things around us. We merely apprehend them when they stimulate and produce representations within us. That is all.

Space, we figure to ourselves, as a gigantic receptacle of all matter, and time we usually imagine under the form of a flowing river. We rarely stop to question the validity or meaning of this tyrant imagery. As for our belief in the existence of a world of things possessing colours, tastes, scents—the world, that is, which lies enmeshed in the net-work of space—we never even bring it into question. Indeed, most of us would scout the question as sheer madness. And if, for a passing moment, the problem happened to strike us by some freak of fancy, we would solve it without any hesitation by seizing and grasping something near us. The pressure and the contraction of our own muscles would speedily reassure us. What we can push and pull seems to us pre-eminently real. Our natural objective bias betrays itself in a strong and almost pathetic belief in the muscular sense as a touchstone of reality. Thus the things which we have seen or heard, touched or tasted, are “known” to exist. The conviction for the majority of men is ultimate—in fact, just as unquestionable as the companion belief that things *are* just what we *know* them to be.

But this set of beliefs by no means exhausts the consequences of our wild ingrained sense of realism. Things unseen are easily assimilated to things we know, and are thus made the subject of any number of categorical assertions. Some little Italian town with its cathedral, palaces, and ruined walls, though never seen by us, is readily imagined. It is like Pistoia, Viterbo, or Lucca. What more need we know? And so, with our untamed and sometimes even riotous imaginations, we embrace the wonders of East and West. Then, too, there are the unexplored and even undiscovered regions of the Earth, such as certain tracts of the Polar regions, parts of the mighty Himalayan trough, or the upper reaches of the Amazon river. They, however, present no difficulty. They “*emphatically*” exist, and are even pictured, sometimes with no lack of vividness, by our unconquerable imaginations. Who would question their reality? Why trifle about the obvious fact that they

have not been explored? Clearly we know enough, and later may know more.

The same attitude of mind is found not only in the discussion of things unseen but also of things invisible. What, for instance, has the naïf realist to say about the vital principles of the vegetable and animal kingdoms, and what of the human mind? Say? Why he talks of them all as fearlessly and fluently as if they could be weighed and measured. Indeed, he stands aghast at our pedantic wonder.

“After all,” we murmur, “the upper reaches of the forested Amazon may yet be discovered; but no man has ever come face to face with a vital principle or a human spirit. They cannot even be imagined; for visual and tactile images are limited to things in two or three dimensions, which exist ‘in space and time’.” We are prepared even to warm to the discussion; but find the naïf realist smiling at our “bookish,” “theoretical,” “metaphysical” way of treating a plain matter-of-fact issue.

“Your difficulties,” he may say, by way of explaining the smile, “are like so many spider’s-webs which shrink and fall in a rain-storm. Human souls exist. They are spirits, not matter: they inhabit the body and give it life. Unseen, unfelt, they are the great abiding realities in a mysterious world, part spirit, part matter.” One is left musing, asking oneself if there is any limit to this triumphant sense of reality and objectivity.

By way of answer, one hears of mathematical unity, which never did or could exist on land or sea, or anywhere outside of the mind of a man, being treated in its turn as if it were as real as a continent; of surds and irrational numbers, which lie far beyond the pale of human comprehension, but which, in spite of all that, are played with in mathematical problems as though they were as real as the knights and pawns in a game of chess; and lastly of points and lines and other strange dreams of geometers, which are taken with the same seriousness as scientific fact or philosophic theory.

If anything were required to reduce us completely to silence, we hear of contingent or imaginary "facts," of what would have happened if Marathon had been lost by the Greeks, or if the Reformers had never stirred the thought of modern Europe. If we say "but isn't it just a little . . .," we are interrupted with the remark "the knowledge of course is a priori, but none the less extremely valuable". The remark is sufficient to start a long meditation, on the suggestionability of men, and the strange, hypnotizing power of certain words and phrases which seem to veto all discussion in the joint names of science and philosophy. . . .

And so we might continue to review the tenets of this wonderful, and even magical realism of plain men. The past, the present, the future, the future which never will but which might have happened if some impossible or unsuspected condition had been fulfilled; things seen or unseen, visible or invisible; things calculable or incalculable, possible or impossible—all are embraced by the mind of the naïf realist, and accorded a "real," "solid," "objective" value in his all-embracing scheme. It is at least a "muscular" philosophy, and strange though it appear, we are most of us inclined to follow the muscular school of reality and truth. Indeed, a ballot taken among the shrewdest and most thoughtful minds of our own day, would bring in an overwhelming majority for this realism of plain men.

Now there is, of course, in this "robust sense of the human race," much that is true, and unfortunately much that is wholly indefensible. As we hope later in this volume to suggest a positive, constructive, and realist solution of all the outstanding epistemological¹ problems, it will be well to face all the difficulties, great and small, from the very beginning, with fearlessness and candour. The easiest way for our pur-

¹The theory of knowledge has many different names. It is spoken of as epistemology, criteriology, critics, major logic, material—to distinguish it from formal—logic, and the rest. Whatever it is called, it discusses the problems of knowledge, certainty, and truth.

pose lies in the critique of this world-wide realism. We shall, moreover, criticize and even destroy the main positions without suggesting the existence of a second line of defence. Our object at this stage will not have been achieved unless we manage to cast doubt on the realism of plain men, and indeed on every other variety of the same theory. We must endeavour, in other words, to lose touch with our wild sense of reality and objectivity, in order that we may fully grasp the most insistent of all the problems and difficulties in philosophy. If we have faced the difficulties once in all their intricacy, we shall finally be in a position to maintain a rational, purified, realist solution. It is necessary to awaken ourselves from our "dogmatic slumber," and it is well sometimes "to bewilder oneself methodically".

Let us, then, consider the difficulties one by one.

Variations in Shape.

I. Any single sensation, thought, or judgment, or any conviction or belief of whatsoever kind, can be made in a moment to bristle with epistemological problems. We choose, then, to take a very simple set of observations as our starting-point.

As I write, leaning forward in my chair, there lies before me a desk of polished walnut, with a flat, oblong surface like a table. Let us concentrate our attention on the surface. Our realist friend finds no difficulty in summing up the situation. One glance at the desk is sufficient to assure him that the top is rectangular, and that its colour is of polished walnut. But as I move my chair from point to point further away from the desk, I observe that the top is for ever changing its shape. Sometimes it looks like an irregular rhombus or rhomboid, but more often like any irregular quadrilateral. It is almost impossible to believe at any moment that the rapidly-converging lines are parallel at all. Sometimes the near angle seems acute or almost a right angle. A change of three paces in my point of view turns it into something obtuse. The shape, then, is never the same when seen from two different points,

however near, and never by any chance rectangular. In fact, to obtain the impression of a thing with four right angles, I would be obliged to look down on my table from a not inconsiderable height, and even then to use an illusive imagination. Why, then, does the realist insist on saying that it is rectangular? Why is this supposed to be the *real* shape, and why is this rectangular impression selected rather than one of the hundred others? Why does he insist upon its uniformity, in defiance of the multiple shapes that dance in his consciousness? Is it not rather arbitrary?

At this point we can easily imagine the robust realist breaking in on our reflections with the remark, "What dreadful nonsense and what absurd questions!" "Use a T-square," he will say, "its angles are clearly right angles. Clamp the T-square to the sides of your desk, at the angle points, and show that it fits the angle of the table. In other words, use your sense of touch. Obviously, it is a right angle. Why, therefore, try to confuse a plain issue by citing the old well-known differences in perspective."

The answer is a fair specimen of plain realism, and is based on a number of crude and unwarranted assumptions.

"So the T-square gives us right angles," we reply. "How do you know? Obviously it must be either by sight or touch. If by sight, let us repeat that the T-square, like the angles of the table, can be made to go through all possible changes from an acute to an obtuse angle, by a simple change of a few paces on the part of the observer. In fact, one of the arms of the T may, if we take a continuous walk round the object placed on the floor, be made to revolve about the other. Why, therefore, single out the appearance of 90 degrees, which is only one of many, and why discard all the others? If, on the other hand, you rely upon touch, we can only ask why you place such a pathetic belief in tactile sensations. Is it just the primal belief in muscle? However, primal or derivative, we must invite you to close your eyes and 'feel'. By what standard do you judge 'the feel' of a right angle?"

Moreover, you can make the T-square 'feel' acute or obtuse, according to the mode and degree of pressure. If you place two fingers lightly on the T, one on each arm, it may easily seem obtuse. If you grip it hard, with the palm of your hand pressed into the angle point, it may readily seem acute. Which *is* it now, or rather, which does it *really* feel, acute, rectangular, or obtuse, and above all, why?"

Thus, on second thoughts, the appeal to the T-square only complicates matters, and yields two sets of problems instead of the original one. One table is "bristly" enough without introducing a T-square. Besides, if it came to the point, we should just as soon believe in the rectangular nature of the desk as of the T. The difficulty is to find any trace of good reason for either belief. No! the T-square is, after all, only a typical subterfuge—one of many. To change the metaphor it is only a wooden horse containing the old realist prejudices and assumptions.

Variations in Colour.

Again, to return to our desk, the colour is enough to set us musing. "Polished walnut" would figure in an inventory. But as I look at my desk from any one point, the colours are most elusive in their tint and variety, comprising, in fact, all shades from a glaring white, where the light plays hard, to a deep silky-brown. Then as I walk slowly and attentively round my room, keeping my eyes fixed on this surprising desk, I observe that no single streak of light or colour is stable. The colour, apparently, is just as changeable as the form. As I watch, the day-light fails and all the different colours soften down to a neutral brown-grey tint, before losing their last vestige of colour. I switch on the electric light. The whole is coloured indeed once again, but all the shades and tints are new. Now, which is the point of vision, and which the light that reveals the *real* colour, and above all, why?

In a similar way we might proceed with our other sensations connected with the table, one by one, and show that each is

mysteriously and bewilderingly unstable. One other instance, however, must suffice to prove our point, that the same person can have widely-different sensations concerning what purports to be the same object.

Variations in Sense of Touch.

Take the sense of touch, of what is often spoken of as "feeling". The case is interesting as "touch" is the last citadel of the realist. I run my forefinger lightly over the surface of my desk, and find it smooth. Why not, indeed, seeing that it is polished? Then I press hard as I rub the same finger once again over the same surface. This time it seems rough. I look at it steadily and decide that it is really smooth—that the roughness is a thing of my own making. Then I look at it through a magnifying glass, and find that it is now a thing of dots and dents, of tiny rocks and sharp edges. Now which is my desk, rough or smooth? If it is *really* rough, then my ordinary sense-perception is wildly wrong, and untrustworthy, and probably the whole of my sensations will be found to lie under the same sweeping condemnation: exit sensation as a form of knowledge. If, on the other hand, my desk is *really* smooth, then my vision, aided by a microscope which purports to give greater accuracy and detail, is strangely fantastic. The problem is obviously not easy. Is everything relative and nothing absolute in a world of insecure and fleeting impressions?

We shall not do the crude realist the injustice of making him suggest "strike an average". Averages are sometimes interesting expedients, but here such a course is impossible. If, for instance, we struck an average between the dozen most characteristic colour-impressions, in order to find the *real* colour of the desk we should be admitting, by our procedure, that each of the impressions taken singly was wrong. If they are all wrong an average will obviously give us the average error, and not the truth. We need not delay over an obvious critique.

Do Things Exist at All?

II. So far we have dealt with one difficulty. What is the *nature* of the desk? or *what* is our real knowledge concerning it? Now let us turn to something quite different. Apart altogether from *what* the thing is supposed to be, how do we know *that* it *exists* at all? How do we know not *what* it is, therefore, but *that* it is.

"I see it," replies the plain realist, "see it and *feel* it fair and square in three dimensions before me."

"No! you do not see *it* at all," we reply. "You have only a shifting, sliding group of images within your consciousness, which you, with your objective bias, attribute to something outside yourself. If you only really grasp certain events or processes in consciousness, why are you so profoundly convinced that there is a *real something* outside to correspond?"

As a rule such questions only meet with hot-headed answers. However, our realist may solve the difficulty by walking over and bringing his clenched fist down on the desk. "There," he says triumphantly, "I felt it, and it 'felt' my blow, for I can now see and feel it vibrating."

Yet the simple truth is very different, however "clinching" the answer may appear to be. He felt within himself a certain number of muscular sensations—one cannot possibly have a muscular sensation *outside* oneself!—when he is supposed to have struck the table, and his sensations were accompanied perhaps by certain feelings of pain. Afterwards he had certain spinning, wavy images in consciousness, which he attributed to the vibration of the wood. A supposed piece of wood has met a supposed hand—for what do we know of our bodies or members any more than of things "outside" us—they have collided, it seems, and results are supposed to have taken place in each. Possibly this interpretation may be excellent, but it must be abundantly clear that it is all a matter of interpretation. This view, in other words, is a sufficient, but is it a necessary explanation? All that we know, to wit, all that we are

immediately given, is that one group of sensations, muscular in kind, was succeeded by another group which turned out to be visual. What is there, in the nature of my experience, which drives me to infer the existence of a world of real things? Apart from the question what a thing is, how do we know that anything is?

The usual answer to the difficulty lies in the assertion of the principle of causality, or some "principle of the sufficient reason," which usually turns out to be a very insufficient reason.

"Why trifle in this fashion," our realist may say, "about things which are, after all, important. You will demolish everything at this rate, and be left yourself at last, a chimera gyrating in a vacuum. The thing is really simple. Every effect must have a cause. You find the effect, in this case, within your consciousness: the cause is the real object lying enmeshed in the scheme of things. So, by using the scientific principle of causality, you are led to see at once that things exist."

If the matter were so simple, we should indeed welcome this solution. But this principle of causality, usually stated by plain realists "that, every effect must have a cause,"—whence comes it? Who established it? It is, we take it, an interesting and important human judgment, this principle of causality. Why, then, is it so arrogant as to impose itself upon us unproven?

In any case, what are the possibilities of proving it? Either by appealing directly to the mind and stating it as an analytic certitude, or else, we suppose, by appealing inductively and synthetically to the unfailing human experience of cause and effect. Unfailing human experience? But this presupposes the very point in litigation, whether there be a real world at all. To prove that a real world exists by appealing to the principle of causality, and then to justify the principle by appealing to our experience of the real world, may be very interesting, and even exciting: but it is not philosophy. We

style this procedure a "petitio principii," and endeavour to avoid it, as a typical and insidious fallacy.

There remains, then, only one possibility of justifying this principle of causality, to wit, by an appeal to its axiomatic or immediate character. But is it axiomatic? There is, indeed, a widespread belief in the principle, just as there is in the existence of a real world. But a widespread belief is not an axiom, and, besides, are we not presupposing by our very terminology "widespread," that persons and things exist, that there *is* a real world? It all comes back, apparently, to the vicious circle, whereby Proposition I is made to prove Proposition II, which good office is then reciprocated.

The applicability of the principle of causality to the events of consciousness seems, in this way, to lose its compelling power, since the principle itself needs some proof or justification. But more remains to be said.

Even if we grant the validity of the statement that every effect must have a cause, why must we assume without further proof that the cause is necessarily an object, a *real* objective thing? Why rush off at a tangent and thus assume the truth of our native, realist prejudices? Might not the cause be something quite different, some Energy, or Force, or Spirit—something wholly unlike the supposed real world? Why are all these possibilities so summarily dismissed? To these questions the ordinary realist has no answer. His whole "proof," and its guiding principle, turn out to be little more than a dogmatic assertion of a belief that has never really been scrutinized.

Before passing from this difficulty, we may raise one last point. Even granted that we are impelled to think of something existing outside us, when our consciousness is besieged by visual, tactile, and other sensations, why do we suppose that the objects persist when the sensations have disappeared? Why, for instance, should I think that my desk "continues" to exist during my sleeping moments, when neither I nor anyone else with eyes sees it? Naturally, if I wander along

to my study during the night, I may find my desk, see and "feel" it once again. But what makes me so sure of its persistence throughout the night while I gave it no thought? By way of answer, we may be told that the only alternative explanation of supposed appearances and disappearances, of entrances and exits from the scheme of things, is too fantastic, a mere game of "hide and seek" with reality. But this is only a reassertion of the old, objective bias. Why does anyone ever think that *anything* exists? And granted that he may have some excuse for this pleasant fancy, when he stands "in presence" of something, what trace of reason can he give for his persistence-theory? Is it not rather a strangely unwarranted assumption?

Do Persons Exist at All?

III. The third difficulty is really only a corollary of the second. If it seems impossible, not at first sight, but on second reflection to establish the existence of an extra-mental world of inanimate things, the same difficulty is applicable to the case of living persons. Why are we so convinced that people, men, and women, exist?

We say that we hear "their voices": strictly, we have a number of auditive sensations which we attribute to a supposed person. We see "their faces": strictly, our visual imagery presents us with a certain group of pictures. We grasp "their hands"—the old, muscular argument: strictly, we feel a number of muscular contractions and relaxations, which we "rush off" and attribute to the hand of *another* person. Yes! but we play with "their minds," it may be said, and thought answers thought. So it may seem, but the plain facts are not charged with this elaborate theory of reality. All that we know or think comes to us through the senses, and sensations, after all, are events that proceed in consciousness. The supposed thought of a friend is conveyed either by a "look"—all that we register is a visual impression—or by the sound of a "voice," which is nothing until it rings in

consciousness. All that happens to me of which I have any knowledge proceeds then within the domain of conscious awareness. Why, then, do we obstinately affirm that persons exist outside and independent of consciousness? As the old principle of causality cannot be invoked, we are left on the tip-toe of expectation, waiting for a reason that is never given.

And if we may legitimately doubt the existence of other persons, what of ourselves?

Somehow at this point, we think we hear the cry of the plain man: "Do not," he pleads, "do not analyse our own personal reality away into psychic events. Leave us at least ourselves, even if all else is a dream, and other 'people' no more than striking impressions in a dance of phantasmata."

Yet, however regretfully, we must proceed. What do we know of our supposed selves? I look in a glass, and see a face: a visual image, no less, no more. I lift my voice and hear—just a sound. I feel "my" arm, and the result is a muscular impression. I look outward, inward, upward and find no more than sensations, feelings, thoughts, desires, or imagery of some kind—all psychic events at best. What am I to myself, in fact, but an ever-changing group of psychic occurrences? Why should I think of integrating these fleeting phenomena into a personal self, any more than I think of integrating those fragmentary associations, ideas and images of "my" sleeping moments into a something? What do I mean by a "self" or "myself," anyhow? And how do I know, or think I know, that such a self exists?

The plain realist is ill-equipped for answering these rather more searching questions. Once deprived of his "strong-right-arm" argument, and of his violent use of the principle of causality, he is reduced, as a rule, to incoherent repetitions, or to language which is scarcely philosophical.

Possibly, then, these queries would suffice to awaken us from our ultra-realist slumber, and to loosen our thoughts from their moorings. But there remains, still, one big difficulty of considerable importance to which we turn.

Different Impressions by Different Persons of the “ Same Thing ”.

IV. Without pushing our analysis so far into the very problem of existence, the problem as to *what* things are, may once again be put in a more acute form. We take our stand, then, for the time being, with the naïf realist, conceding for the moment the existence of his reality—his world of persons and things. We have seen already that I myself may have—indeed cannot fail to have—divergent representations of the “self-same” object. The divergence is so great, in fact, that we are left wondering, what can be the meaning of “identity” and of the term “self-same object”. But that is not all; though this multiplicity of representations would, alone, be quite enough to provoke a long inquiry. Things are even more complicated.

Different persons have different views and impressions of the “same” thing. Get two artists to draw or paint a distant object—a statue, or let us say, a thicket on a distant hill—from two points which in view of the distance are practically the same. The paper or canvas records traces of similarity in an all-enveloping series of differences. If, then, the aquarelle or pencil sketch tells its own tale, what, we ask ourselves, must be the uncharted differences of the living minds. This is not, be it noted, a fact of the order, “two men love what I hate,” and cannot be waved aside with the comforting remark “*de gustibus*”. It is something of much deeper import. Two people see “one and the same thing” in very different ways.

Language, moreover, may never reveal these personal peculiarities, as people easily slip into the way of referring to two divergent representations by the same term. If my friend, for instance, always saw circles as ellipses, and if he always called them circles, how could I, in conversation, ever discover his secret? How many colour-blind people ever guess the fact, and how many of their friends dream of the curious differences in their colour-vision? Provided the same name is given

to the same object, we go merrily on, without ever realizing that no mind has ever sounded another, that words may conceal the most clashing differences, that we may never know how others see, or hear, or feel.

What, Then, is the Criterion?

Two people, then, have different representations of "one and the same" thing. Who is to choose between the two? How label one "valid" rather than the other, and, above all, why? If the choice is not purely arbitrary, what are the principles or criteria at work?

Now, as a rule, the realist gives one imperturbable answer to all such difficulties. He is not disturbed: he admits all the facts: he gives his canon or criterion. "That representation is obviously valid," he says, "which corresponds with the reality: all others are either partially right or wholly wrong." "Minds," he may proceed, "are like mirrors: if concave or convex they give a distorted image: if straight and duly prepared they give an adequate reflection of the object—they correspond with reality."

There must be few who have not heard this "rough and ready" theory of knowledge, supported by the "mirror" or some similar analogy. It is the simplest and easiest explanation, that has found a multitude of prophets and disciples. In it the whole of the crude realism of our childhood is condensed. It presupposes, as we shall show, that we know more of the "objective reality" than of the "reflecting" mind, and that we can use our immediate knowledge of *the thing in-and-for itself* to check the truth of the reflection—a splendid instance of our spontaneous objective bias.

Though we are far from dismissing the whole correspondence-theory as futile and impossible, we must at least see that in this crude form it is wholly unacceptable. It rests on this strange assumption, fit only for the psychology of fairyland, that (1) we can register our mental impressions of reality; (2) leave our minds and find our way somehow into the "arcana" of

reality by some new process ; and (3) finally return to our minds to correct or adjust the first impression. Such voyages may be made in Utopia, but never in this, the only world we know.

The "mirror" image or metaphor gives away the whole case. In that parallel, the naïf realist assumes that just as he can compare the object and the reflection in a glass, so he may stand outside the sphere of his own knowledge, and compare one of its elements—"the reflection"—with the very nature of things. It is, of course, a dream as we are bounded by the limits of our consciousness, and have no power of peering into the hidden reality of things. It is useless then to talk in this free and easy manner of correspondence. "Correspondence of what with what?" we may ask. It usually means the correspondence of our representation with the actual nature of the thing, which actual nature, *apart from our representations and thoughts*, we must for ever ignore. Like many another theory its appeal is based upon one tyrannical image—in this case, of a mirror. Is it not clear to all, that if minds are like mirrors, then there is, for our realist friend, a world of things confronted by a group of mirrors? That is all. There is obviously no mind to discuss the fidelity of the reflection: all the minds are occupied already in doing their mirror-work. They cannot play the double part of mirror and spectator, which is precisely what the whole theory presupposes.

The "correspondence view" which, at first sight, seems to answer so many difficulties, really sets up an impossible criterion. How can we possibly know what the reality is apart from our impressions and thoughts? And how can we possibly find out if our impressions correspond with something, of which we must by the constitution of our minds, remain totally ignorant? If this were the only means of discovering the true, and sifting it from the false, we might as well give up an impossible quest. It would be better to resign ourselves quietly to our life in a world of shadows, where truth would be a great though unattainable ideal.

We have, thus, considered the difficulties of our problem

under four main headings; the apparent impossibility of discovering any stable knowledge about things; the difficulty in believing that anything exists at all; the thorny question of the existence of persons, selves, or self; and lastly, the apparent impossibility of finding any criterion to distinguish between valid and invalid knowledge.

Difficulties might be multiplied by invoking the recent facts and theories of physical science, which tend, more and more, to dissolve the real "hard" world of matter into ether and charges of electricity. We shall, however, content ourselves with this rough outline, as it will, we trust, show the utility and necessity of some theory of knowledge, if we are not to be the prey of every caprice and sudden fancy. From all the innumerable questions of detail, there stand out in this discipline the following five insistent questions:—

1. Can we know and prove that there exists outside us a real world of persons and things, to some extent at least, independent of our consciousness?

2. Can we know the nature of that reality, not only *that* it is, but *what* it is?

3. Can we discern valid from invalid knowledge—the true from the false?

4. What is the criterion of truth, and of our valid certitudes?

5. What is truth?

To all these questions we hope in the pages that follow to give a critical, constructive answer. We prefer as a kind of literary symbol to state our object in the form of questions rather than of propositions which we "stand to defend". Our work has been one of patient inquiry, undertaken with the hope of discovering and grouping all the relevant facts, without any desire to defend any particular proposition or to support any cause. On starting our inquiry we were indeed "outward bound".

Moreover, we are more intent in the subsequent pages upon answering the questions and supplying satisfactory and abiding

reasons, than on criticizing other theories of knowledge. Those theories abound in the history of modern philosophy, and in the works of contemporary authors. The omission of a name or even of an important work does not imply that it has been overlooked, nor that it has not been carefully studied. It only implies that, while perhaps we have profited considerably by the study, we are anxious to liberate the theory of knowledge from its history. Philosophy within recent years has almost been strangled by its history. Briefly, our object is to write an essay in philosophy rather than a history of opinion concerning knowledge and truth.

CHAPTER II.

SCEPTICISM.

OF all the questions that we summarized at the close of the last chapter, two stand out with luminous clearness for the mass of men, viz. "What is truth?" and "How distinguish valid from spurious knowledge?" They rivet the attention and challenge the mind to respond. Probably there is no thoughtful person who in some moment of heart-searching has not felt the necessity of a definite answer. In order to live we must breathe: in order to think we must be able to build our knowledge securely "broad on the base of things". None doubts, therefore, that these problems are charged with singular importance, both for life and thought, and every one knows that solutions have been offered since men began to reflect.

The multitude of theories concerning truth and knowledge cannot be touched upon in any one work unless, perhaps, in the history of philosophy. There we read of mighty efforts, of many fruitless repetitions, and of the few periods of constructive thought which have been followed sometimes by centuries of eclecticism, misunderstanding, discouragement, and decadence. Yet through all the confusing diversity of opinion, and the roar of many voices, we may detect two great tendencies which may be roughly classified as dogmatism and scepticism. These "rubrics," of course, are very general and necessarily cover multitudes of differences in judgment and outlook: the main current of tendency is nevertheless clear.

Broadly the dogmatist is the man who sees no necessity in pressing these fundamental questions, concerning truth and

criteria, too far; who fears that the whole superstructure of knowledge may "topple" if we burrow too near the foundations; who, being certain of many things by temperament and disposition of mind, cares little for the criticism or justification of knowledge. In his heart he has a lurking fear of scepticism, which drives him to give a summary, discreet, constructive answer to the questions which he really dares not face.

The sceptic, on the other hand, is one who adopts an attitude either of unyielding hesitancy or convinced despair towards all the problems of knowledge, truth, and certitude. He has, as some one said, "a sort of hesitation of the soul, as other men have a limp in their gait". He questions all, finding the "salt of truth" in the "surviving query" and the ultimate doubt. Sometimes he finds for answer only the echo of his question and turns with resignation—for resignation is almost a characteristic of the sceptical mind—from all constructive play of thought. Occasionally we perceive something of the sorrow and bitterness of soul, something of the paralysis of the mind that is felt in making the Great Renunciation: but, as a rule, there is little disillusionment, little vision of the human tragedy in the sceptic who shrugs his shoulders at the vagaries of men. Sometimes he is argumentative, critical, cynical, even a ruthless and bitter opponent of all positive statement. In any case certitudes are things of the market-place, not to be defended in the academies. Briefly the sceptic is one whose faith in thought and reason has been completely undermined. In a world of disappointment and illusion, thwarted rather than helped by the angry discords of the many teachers, we may never know what is true; though, possibly, we may, either by dint of much labour or by the acceptance of some convention, discover a way that may claim some degree of probability. But the upshot of it all is clear. "There is nothing anywhere but guessing."

Between the two extremes of dogmatism and scepticism, there lie a vast number of theories which share something of

either or both. The most important within modern times is that of Kant, who certainly shares both tendencies. In his "Critique of the Practical Reason," as we shall see later, he shows all the swiftness of judgment, the lack of hesitation, and the determination to solve great problems at all costs—to cut where he cannot untie the knot—which mark the dogmatist. In his earlier work on the "Pure Reason," we find much of the sceptics' diffidence and limitation of thought, not to speak of his vision of the equal value of certain contradictory arguments. Certainly few philosophers have ever attempted to set forth and describe the ruin of our reason in dealing with ultimate reality more forcibly than did Kant. Our own theory, to which we shall turn at once when we have cleared the ground, will be wholly critical in method. We start without any desire to establish any particular set of propositions: we doubt and criticize, and are finally led by the plain facts of the case to establish certain conclusions.

Let us begin, then, with some account of scepticism, the theory which stands in our way, bidding us relinquish any hope of building a theory of knowledge. Its reiterated arguments, which are often regarded as supreme wisdom, are weighty: they must be met and answered. Naturally, from the writings of ancient and modern sceptics, many challenging, destructive propositions might easily be cited. A list of such statements lies before us as we write; but we shall not choose this more obvious method of criticism. If the sceptic commits himself to any positive assertion, it is not difficult to "hoist" him on his "own petard". But the real finesse, the essence of his philosophy, is to be found neither in boisterous criticism nor in categorical assertion. Its "soul" is something far more subtle and fugitive—something more akin to hesitancy and reluctance.

Now of all the philosophic schools, that of the sceptics is the hardest to examine with anything approaching justice or impartiality. If one is temperamentally given to hesitancy of mind, to exaggerating difficulties, and to discounting everything

that bears the semblance of proof, their arguments will seem convincing if not final. If, on the other hand, one still guards the hope that knowledge may not turn out to be a mere rope of sand, that truth need not necessarily be unattainable, their arguments will be found somewhat cavalier and a priori. In face of the difficulty, we can only make an effort to be strictly impartial. But as a matter of fact, when our examination of the arguments and outlook is complete, we find that they are sometimes almost as difficult to answer as the raised eye-brow of a friend, or as the chilling silence that sometimes greets a suggestion.

The Making of the Sceptic. The Scandal of Philosophy.

Deep down, scepticism represents a desire to be liberated from the tyranny of criteria, and from the search for truth. It is an attitude of mind, an outlook on life and thought, or a tendency which has constantly arisen in presence of great opposing schools of philosophy or in the wake of some great period of constructive thought. After the tension, the relaxation: after the effort of reason, the scepticism. Some have felt that where the philosopher-princes differ and contradict one another—not without violence—they themselves may be forgiven for suspending judgment. Men, in fact, have grown diffident in face of this age-long scandal of philosophy. Let the philosophers agree, and then they will listen patiently.

Temperamental Hesitancy.

There is, in addition, another more intimate psychological factor which goes to the making of scepticism. There are, that is to say, many very penetrating, very delicate and nicely-adjusted minds which shrink from committing themselves to anything definite. They cannot cling tenaciously: they must recoil. For them almost anything, "a sunset-touch," "some one's death," "a chorus-ending from Euripides," will suffice to dissolve their thoughts in doubt, to shake the foundations of

everything, and to set their minds dancing "round the ancient idol—the Grand Perhaps". They have no power of finishing an inquiry, or of knowing when they have grasped the very heart of anything. They cannot bring themselves to attach values to modes of thought, or alternatives of conduct. If they tether themselves to anything, they strain at the leash until it snaps. Indeed, after some time, they come to regard any definite, positive statement as an evidence of coarseness of mind, as some departure from the neutrality of the wise spectator. Such minds are even known to fret when a choice of action must be made between clear-cut contradictories. They desire supremely to regard each of the opposite courses with all the aloofness of a spectator, judging, examining, approving, criticizing, but never by any chance yielding to the temptation of a determined choice. For such minds, some kind of scepticism is the only possible philosophy.

The Desire for Peace.

In addition, however, there is an ethical factor which tells in favour of this same tendency of thought. We naturally long for peace of soul, and most of us are not endowed with energetic, restlessly-inquiring minds. Now any assertion about things that matter will almost certainly meet with strenuous opposition. One army of facts will be ranged over against another, and principle will be inevitably found to clash with principle. The opposition will generate strife, and our serenity may be lost in the passionate desire to defend some cause, or to prove some theory in spite of everybody and everything. Why run the risk of becoming a fretful partisan? Why not relinquish the hopeless task of examining systems? Why not forego the right to assert anything? Why not seek liberation from the strife of opinions and the war of words in a delicate poise of mind which entertains rival thoughts with equal alacrity and sympathy? Serenity, it may seem, will thus be acquired or maintained, and in addition, perhaps, a reputation for wisdom. Why seek the glare of the light when the twilight,

undisturbed by the polemics of the schools, of the politicians or of the economists, is so enchanting? Why bother about knowledge which must ever remain elusive and uncertain, when a cultivated dilettantism will yield just that peace and serenity which we all instinctively seek? There is a wonderful calm, indeed a positive feeling of release, that comes to the mind of a man who is certain—but not too certain—that there is nothing to be known.

It is not for us in this work to summarize the eddies and currents of scepticism throughout the centuries, an analysis which would plunge us deep into the history of Greek and modern thought. Let us content ourselves with an account of the main arguments of its typical exponents.

The Confusion of the Philosophers.

I. The argument on which many fall back in moments of difficulty is founded upon a review of the widely divergent systems of different philosophers. Philosophy throughout its long history has made little progress. The same problems recur; the same facts are affirmed, neglected or denied; the same principles are defended and rejected; and the old debates concerning God, freedom, immortality, truth and certitude, the origin of ideas, and the rest, still split the world into opposing camps. No confusion could be worse confounded. Aristotle held that the genesis of our thoughts with all their peculiar characteristics could be explained by an appeal to the world of things. Plato, on the other hand, held that the world of things could not possibly provide more than a passing stimulus, enabling us to revive the thoughts of some former existence. Locke held that it was possible to form a general notion or concept of a triangle—nothing determinate like the equilateral or scalene variety—but just a triangle. Hamilton calls Locke's theory a "revolting absurdity". Berkeley affirms that he cannot possibly form this Lockean concept, while others find both the concept and the theory obvious to a degree. One school will hold that the soul is immortal:

another that there is no soul to be immortal. Numerous philosophers affirm that our will is determined by our nature, character, temperament, environment or antecedents: others that it is of the nature of the will to be free. Some affirm that God is unknowable: others that our negative and analogical knowledge of God is not inconsiderable. Substances exist: substances could not possibly exist. Substances are knowable: substances are inaccessible to our minds: substances do not even exist. Among the philosophers of the inorganic world—the cosmologists, and physical scientists—we find the same bewildering confusion of voices. All is matter and motion: all is matter and energy: all is energy, and matter is no more than condensed energy: all is force. Everything is necessarily active: everything is necessarily passive. Why continue the list?

The truth of the sceptic's assertion is only too painfully obvious. When he suggests that the complications are too great to be ever disentangled, we may forgive his hasty judgment. But when he goes further and suggests that each of the philosophers has an equal right to his own conviction—thus, that contradictory propositions are of equal value, at once equally true or equally false!—we register a “non sequitur” and protest most vigorously. However, let us give the main arguments before proceeding to our criticism. For the moment it will be clear that if this first argument were sound, all our knowledge would be bankrupt, and all truth impossible. If all that the philosophers have taught is to be either equally believed or disbelieved, then, in either case, our whole knowledge is a matter of sheer conjecture, a mere shot in the dark. In that event there would be nothing left for us but to pirouette mentally for the rest of our lives—a somewhat dispiriting and monotonous prospect. The poet was able “faintly” to trust “the larger hope”. But to trust without being able to give a sober reason is scarce worthy of a man. Besides, would not the “trust” be too singularly faint and ephemeral to inspire a life?

The Equal Strength of Opposing Arguments.

II. To this sweeping indictment of all our thought, there is sometimes added an argument based upon the Protagorean "isostheneia"—or equal strength of opposing arguments. It is really nothing more than a reassertion of the first argument in a shortened and more vivid form. Stated in full it might run as follows: Every statement can be contradicted; every principle challenged by a counter-principle; every significant fact faced by another which tells in the opposite direction; and lastly, every argument may be rebutted by a counter-argument of equal, convincing power. If, in passing, the "isostheneia" does not mean all this, it would reduce itself to a platitude—that there is "much to be said on both sides"—which is a useless instrument in the hands of a sceptic or any other philosopher. Our intellects and reasons, thus highly gymnastic and supple, are obviously unworthy of trust. We would throw aside a compass which pointed north for a moment, and then, without rhyme or reason, turned and pointed south. For the same reason, our unsteady, cameleonic intelligences must, however regretfully, be discarded as useless instruments. With the shattering of the hope and pride of intellect, we are left groping in the old unbroken, perpetual darkness of the Cimmerii.

The Civil Feud between Sense and Reason.

III. Naturally if only these considerations were valid, no further argument in favour of scepticism would be required. They would have silenced all our batteries. But there are two other arguments, the first involving those which we have already seen, the second, a delicate rapier-thrust. The third argument, then, as we have listed them, deals with the internal discrepancies of our knowledge. Our senses often deceive us, yielding appearances which are either wholly illusory, or which are corrected by later sense-impressions. A tower seen from the distance appears round: at close quarters it is seen to be

square. A rod held in the hand may seem straight: plunged in water it appears bent at the point of incidence. Moreover, the conflict is not restricted to the domain of the senses. Reason, they say, is found to contradict reason. In presence of the disposition of the world and of the order that reigns among things—to quote the example of Sextus Empiricus—we conclude the existence of Providence. But, when we turn to observe that the good suffer, and the evil prosper, we deny that a Providence can rule the affairs of men. Argument is thus met by counter-argument, and our reason manifests its discrepancies.

When we add that reason and sense are often at variance—"manquent chacun de sincérité, s'abusent réciproquement l'un l'autre," as Pascal so forcibly expressed it—we have completed the sceptic's vision of the insecurity and contradictoriness of our knowledge. "Quelle chimère est-ce, donc, que l'homme?" cries Pascal, after reviewing these considerations, . . . "quel chaos, quel sujet de contradiction, . . . dépositaire du vrai, cloaque d'incertitude et d'erreur, gloire et rebut de l'univers". Not all the sceptics can vie with Pascal in vigour of expression. They conclude, however, from the kind of civil feud that proceeds between sense and sense, and between reason and sense, that all our knowledge is sealed with the mark of deception. We would not trust a watch that went now slow, now fast, indifferently, nor a rusty balance that proved to be sometimes accurate, often false. So, in the same way, the faulty, unsteady, contradictory nature of our senses and intelligence leads us to doubt all knowledge. In order not to be the dupes of this strange, unconscious trickery of our own, we mark everything with a query, and thus find ourselves in the ranks of the Sceptics.

Knowledge Cannot Discuss its Own Validity.

IV. So far the arguments have all turned on the insecurity or discrepancy of our knowledge. The fourth and last is something far more delicate, the sceptic's rapier-thrust at the

very heart of his opponent. It is the most seductive of all their pleas, as it endeavours to show the incoherence of any effort to establish a positive theory of knowledge. Known to the Greeks as ὁ διάλληλος τρόπος, it is to be found stated with brevity and penetration in the works of Montaigne.¹ In order to build a consistent epistemology we should be obliged, they say, to sit in judgment on our own knowledge, or rather our knowledge would be obliged to sit in judgment on itself. We would thus endeavour to find a criterion of truth and validity. But the criterion itself would stand in urgent need of justification, while the supposed justification would, in turn, need a criterion of its own. "Nous voilà au rouet," says Montaigne. The dilemma, true, appears extremely awkward. Either we must choose to move round in a small and very vicious circle, establishing criteria to justify knowledge, which knowledge in turn is made to justify the criteria, or else we must face the awful prospect of an indefinite series of epistemologies. The indefinite series, naturally, would try to substantiate each of the successive criteria, as they mount back on the long road to infinity. Now none wants to walk for ever in a circle, and no living person, we submit, could face the possibility of more than one epistemology. The dilemma holds good. Let us therefore bury our hopes, and begin again without raising an insoluble problem. Judged by the achievements of thoughtful men, judged by its own intrinsic possibilities, philosophy can yield no certitude. All that we have power to see is the "straight-rod bent in a pool".

Criticism of the Sceptical Arguments.

Let us now attempt to answer these arguments which have carried conviction to so many minds. Naturally our only endeavour will be to test the truth of the supposed facts, and to see if the general conclusion as to the total bankruptcy of our knowledge flows smoothly from the premises.

¹ "Essais," Lib, II, cap. xii.

The First Argument, a Non Sequitur.

We begin with the sceptics' reflections on the chequered history of philosophy with all its absurdities—the vigour of the term must be forgiven—and all its inherent contradictions. So far, so good. The facts cannot be denied. The history of philosophy, in spite of many a wonderful chapter, is, in some ways, a sad record of human ingenuity, bearing witness to an almost unlimited power of aberration. But how, we ask, can the sceptic turn from his judgment of *philosophers* to a condemnation of *all human knowledge*? This abrupt transition merits a little scrutiny.

The fact of the errors and contradictions in philosophy would remain an interesting and sombre fact, no less, no more, unless something in the shape of a principle were found to lift it on to the plane of generality. Facts must ever remain a simple group of particularized statements, unless some principle be found to assist in the natural effort to generalize. Now the sceptics' principle is found, of course, in the maxim, whether it be implicit or explicit that each philosopher has an equal right to his own convictions. Without some such maxim they could only say that forty, fifty, or sixty philosophers had erred, which in itself is no condemnation of all knowledge. The heart and life of the argument is the maxim. What, then, is to be said of it?

This principle or maxim has little or no compelling power. It is not axiomatic: it is not a law of thought: it is not a postulate: it is not even plausible. Indeed, we ask with open-eyed wonder, how anyone could ever believe such a perverse idea. Like the sceptic we find for answer only the echo of our question. The simple truth is very different. So far from admitting this strange maxim, we should rather say that nobody, philosopher or whoever he be, has any right to hold any unsubstantiated opinion. Opinions are not necessarily sacred: they may be nonsensical. No philosopher and no dreamer of dreams has any right to think that his theories are anything more than hypotheses or tentative suggestions, until

he has completed his research in verification. A theory, to be of any permanent value—that is, anything but an inspiring assumption—must be based upon a satisfactory and exhaustive inquiry into all the relevant facts, and a thorough, critical examination of the pivoting principles. Rapid intuitions, and “solutions simplistes” must be abandoned in the ultimate philosophic inquiry.

Now in this respect many philosophers have failed. They have felt some conviction throbbing in their minds, some idea, possibly, that came between darkness and dawn, which seemed to consolidate and interpret a hundred fragments of knowledge. Breathlessly, they have sometimes given their synthesis to the world. Thus the maxim that philosophers or others have each an equal right to their own opinions is quite indefensible, and without this supposed principle, the whole of the sceptics' first argument disappears into the void. We are left with just our valuable and sombre collection of philosophic errors—a list which we accept as whole-heartedly as any sceptic. Briefly, the history of philosophy cannot possibly be made to show that real knowledge is unattainable. Rather it indicates that the quest is attended by many pitfalls, that reason is not necessarily infallible, and that we are all liable to error.

It is some consolation, moreover, that we can often determine where the rival schools have gone astray. Some important fact has been omitted or ignored: some supposed fact has been asserted and afterwards found to be spurious: or some fact has been given an undue emphasis, out of all proportion to its real significance, under the stress of some prepossession or prejudice. Possibly if the facts are sound, some leading principle may have been misunderstood or neglected, or some dubious principle has been ceded and made to bear much of the strain of the argument. Sometimes—though this should only be whispered!—the inferences themselves, just the machinery of the argument, show one or other of the old insidious fallacies. Where error is eminently possible, and where these

typical errors are of frequent occurrence, it is both gratuitous and indefensible to suggest that each philosopher has an equal right to his conviction or to a hearing, or to say that all are equally good or bad. The suggestion is even worse: it is arbitrary.

The Second Argument, Arbitrary and Capricious.

Arbitrary, too, is the corollary, the famous principle of "isostheneia"—of "the equal strength of opposing arguments". One has no right to assume any such principle uncritically. To verify it, we should need to spend a long life, or a succession of lives in scrutinizing, sifting, weighing all the opposing arguments of the schools. No sane man would settle down to begin this long inductive inquiry. To pass judgment a priori, on the other hand, and to declare that all are equally good or bad, is surely cavalier to the last degree. When Kant, for instance, drew up his antinomies of the pure reason, and endeavoured to show that the pure reason can prove contradictory propositions concerning ultimate reality, he wrote a highly unconvincing chapter which many regard as one of the weakest sections of his critiques. No! The way of the philosopher is long, his task far from easy, and we suspect that some of these "isostheneia" maxims have been invented by those who either felt no inclination to face the labour of an exhaustive review, or who, feeling the inclination, refused to expend the necessary vital energy. Possibly it has sometimes been a cry from the wilderness to prevent the philosophers from waxing too pontifical. Who shall say? In any case it is not easy to philosophize—to collect knowledge and to extract wisdom—and to many minds a maxim like the "isostheneia" must prove an excellent narcotic.

The Third Argument, The "Civil Feud" Not a Real "State of War".

The third argument of the sceptics is obviously not so damaging to the cause of valid knowledge, and probably the

reader will already have detected the flaw. Briefly, it states that our knowledge is subject to much trickery and deception ; that a "state of war" or "civil feud" exists between our cognitive processes ; that therefore all should be abandoned. The conclusion, it is clear, outruns the premises. We do not, of course, dream of denying that sensations are subject to peculiar and manifold difficulties, nor, for instance, that a tower thought to be round from a distance may prove to be square. Similarly, a straight rod undoubtedly may look bent in a pool. But rather than fly to one inclusive condemnation of all knowledge, would it not be wiser to suggest that perhaps some indispensable conditions of validity were absent in the chosen cases ? A certain degree of nearness to the object, varying possibly with the range of the individual's vision, is not too strange a condition to suggest for the accuracy of visual impressions. Nor, to think of the "straight rod," is it too fantastic to suggest that objects should be viewed through one medium, air or water, but not through both. We do not now hint for a passing moment that any of our sensations are valid—that is the subject-matter of our later inquiry—but we cannot see that the sceptic proves their general invalidity by underlining certain well-known discrepancies. Possibly we may be driven later to show that sensations, if they are to be records of things, are subject to severe and definite conditions of validity. Why does the sceptic "scamp" the whole inquiry, and condemn all our knowledge without a hearing ? Is it not hurried philosophy written in the service of his cause ? In any case his prejudice stands revealed. "Knowledge," so to speak, "is to be tried and hanged."

A less precipitate view of an important problem might suggest the following reflections. Sensation purports to be an instrument of knowledge. Now a flaw in a piece of work is not necessarily due to the tool. The craftsman may, through his own awkwardness or ignorance, fail to see the limits of the instrument's utility, or the conditions of its successful use. He may use it clumsily ; he may apply it, when something much

stronger should be employed; he may bend or break it in attempting the impossible. Yet, if he be a bad workman, he will probably blame the tool. Why, then, are all these unpleasant possibilities dismissed by the sceptic? By what right are the "kangaroo" and "guillotine"—to use our old political phrases—employed so ruthlessly?

We may raise one last point against the later part of the argument. "Reason," they say, "is found to conflict with reason. We look: we infer. We look later: we infer differently. We look at one group of facts: we draw an inference. We look at another relevant group: we draw a different conclusion. Therefore let us abandon reason." It may be perverse, but when we ourselves look again at these same facts, we infer differently. Our conclusion is not "abandon" reason, but "look before you leap". Once again we do not mean to hint obliquely that our reasoning is necessarily valid; but merely that the chosen examples do not show its radical viciousness. It may happen—who shall say?—that after careful scrutiny, one condition of valid inference will turn out to be a complete and exhaustive study of all the relevant facts. Possibly, too, we may be led to condemn all precipitate generalizations from special cases.

Sextus Empiricus, for instance, was not happy in his choice of an example. He looked at the physical order of things and inferred the existence of a Designing, Controlling spirit. He looked at the moral order—the "sufferings" of the good, the prosperity of bad people—and denied His existence. Might it not have been better to survey both sets of facts before attempting a conclusion? No doubt a philosophy of "water-tight compartments" might lead to flagrant contradictions in the separate tanks. Besides, if in his wilfulness he had specialized on the physical order, and established the existence of God, might he not, on turning to the moral order, have queried his gratuitous assumption that the condition of our lives must absolutely reflect our moral standing, that "suffering" is necessarily bad, and prosperity necessarily good? Where did this strange assumption spring from?

As usual, the facts adduced by the sceptics are most important, and must be taken into consideration. Let us, however, face *all* the facts, and thus avoid their rapid inferences and sweeping condemnations.

The Fourth Argument; Escape from Both the Circle and the Infinite Series.

The last "rapier" argument, the dilemma of the circle or infinite series, turning on the inherent powerlessness of our knowledge to examine itself, is far more subtle. Our knowledge cannot scrutinize itself? The facts are worth recalling.

Our knowledge, whatever it be, true or spurious, is distinctly limited, and by making the requisite effort, we can become aware of its limitations and shortcomings. Moreover, to get away from theoretical discussions, we do habitually criticize our knowledge. A glass of spring water tastes sweet after I have been swallowing a few grains of salt or something bitter. An hour later, a glass of water taken from the same spring will seem fresh but not sweet. Now, in order to decide what taste the water really has, I do not need to undertake a chemical analysis. I know without further ado that the first taste was vitiated by the presence of an unfavourable condition.

I measure my limitation, and consequently grasp the deficiency. Rightly or wrongly—it matters little for the moment—we think we can examine and adjust our knowledge. Again, let us say that I "match" two pieces of silk by electric light, only to find in the morning that they do not even harmonize. I do not ask myself, "do they really match or not?" I know quite well that they did match by the electric lamp, which is defective when compared with daylight. Obviously one of the necessary conditions for judging the identity of shades by daylight, to wit, the daylight, was absent. It may, of course, be all an illusion, but we are convinced that we examine our knowledge. Examples might be multiplied indefinitely. We frequently make a mistake, and afterwards correct ourselves without further question.

Now this fact is of capital importance, as it argues the existence of two levels in consciousness, one the level of direct and immediate apprehension, the other the level of reflection and of our considered judgments. Granted the existence of these two levels—of two processes in consciousness which differ from one another in kind—then Montaigne's "rouet" stands still, and his last sceptical argument is reduced to silence. If our knowledge were all on one dead level, we should be bound to adhere to whatever occurred to us in consciousness unquestioningly, and Montaigne's argument would be painfully true. But the "one dead-level" idea is quite untenable, as our consciousness does actually possess that extraordinary power of turning back upon itself in a recoil of examination and criticism. We do not, of course, suggest that the knowledge on either level is real or true. They may conceivably be both fantastic: the fact remains that two levels exist.

Thus no valid a priori "circle or infinite series" argument can possibly be adduced to show that the knowledge of one level cannot scrutinize that of the other. In other words, no mere, verbal argument can destroy the habitual practice of everyday life. The famous dilemma, the stalking-horse of ancient and modern sceptics, presented with all the disastrous neatness and simplicity of a purely verbal argument, is shallow and unconvincing. It trades with people's forgetfulness of their own critical power of reflection. That critical power remains and may possibly be justified in the sequel.

With these words we close our review of the sceptics' arguments. At close quarters they lose all their brilliance and compelling-power, and assume an appearance at once shallow and arbitrary; above all, they reveal a temperamental disinclination for real philosophic inquiry. The philosopher must do much mining, burrowing, tunnelling: the sceptic is only a cultivated dilettante. That he is arbitrary, we have seen. Let us now briefly indicate his general inconsistency.

The Sceptics are Strangely Inconsistent.

In considering the sceptical arguments, we have discovered at least three categorical statements, that philosophers have all an equal right to their own opinions, that every argument may be met by a counter-argument of equal strength, that our knowledge cannot judge itself. If they lay below the surface, it proved easy to unearth them. It must be noted, too, that these three positive statements are the real "soul," the driving-power of the three great "proofs". Without them, those arguments would be merely nerveless groups of facts and ideas—a pile of statements and special cases, without any power of telling for or against the value of knowledge. Thus categorical statements have proved indispensable to the sceptic, who forgets his own creed, his own canons, his own reluctance, his "surviving query" and "ultimate doubt," and all his habitual suspense of judgments, once he sets out to attack the foundations and walls of the temple of knowledge. The sceptic, in other words, when he turns to do anything, becomes an unflinching dogmatist. A man cannot pirouette mentally and argue at the same time. The sceptic thus relinquishes his suspense, and incidentally his consistency; seizes three broad, positive statements, and uses them as iron-girders in building up a general theory which queries every positive statement—and therefore its own iron-girders—as suspect.

This charge of inconsistency need not be further pursued, as in the past it has been the most obvious criticism. The fact, however, is interesting. There always lurks in the arguments and ideas of the sceptics, a little something, a tiny nucleus of positive assertion. After all, they too must obey the law of our minds: we cannot build upon shifting sands.

What is the Sceptics Guide or Code in Practical Life?

So far we have stated and answered the destructive criticism of the sceptics. Now, we ourselves, after answering their some-

what reckless charges, may turn to cross-examine. To get to the root of the matter at once, we may as well ask one question of supreme importance, granted their principles, what practical guide in life can be offered? Men must live and act. They cannot possibly pass their lives in one protracted suspense of judgment, or in oscillating between opposing views. Every now and again at least they must *do* something, unless they are to pass their lives in one long coma. Whatever be their attitude towards the structural efforts of speculative thought, however vigorous their condemnation of any attempt to answer ultimate problems, they must have some theory of life, implied at least in their own practice, something to guide them in the ever-recurring, necessary actions and decisions. Now in the darkness of illusion and uncertainty, what practical guide does the sceptic offer to his disciple? The disciple may ask the question "What is the meaning of life?" He will receive for answer the old question, "Who knows?" "que sais-je". If, however, he asks not, what am I to think or believe, but how am I to live, how to act, what to do, and what to avoid, he will not, if he is sane, accept any such answer as "who knows?" The question is obviously urgent and must be answered.

Yet many of the sceptics, with surprising *désinvolture*, have not even hinted at a solution. They have smiled at the vagaries of men, at the noise and vigour of the philosophers, at certitude, the "will-o'-the-wisp" of the schools. They have exhibited, not without complacency, the finesse and poise of their delicate minds, their aloofness from all the vulgarity of contention and strife, from all the allurements of prophecy and discipleship: *but they have not seen the vital necessity of granting a "why" and "wherefore" to the ordinary events of life.* Such systems, we maintain, may be legitimately suspected. Their authors, who gave no guide for practical life, can never have realized the extent of their own destruction, which leaves neither heaven nor earth, neither hope nor thought—in fact, nothing but modes of consciousness vibrating in the darkness.

Seek for Probability or Follow the Local Conventions.

Two typical answers, however, have been given, one by Carneades, founder of the new Academy, and his followers, the other by Timon, Sextus Empiricus, and later by Montaigne. Carneades, who embraced the whole sceptical code even to a challenging degree, saw that a practical guide for life, for necessary practical thought and conduct, was necessary. He, thus, seeing the hopelessness of continued indecision, and the impossibility of rational conduct if no reason or motive could be sought or found, taught that men should seek in thought and life what seemed most probable. Let them never fix their hopes on what could only lead to bitterness and failure, to wit, the unattainable, unknowable truth; but rather let them fix and follow the highest probability. There is a certain attractiveness about this doctrine, a face-value of reasonableness and wisdom which has commended it to not a few philosophers. Have we not read in our own tongue that "probability is the guide of life"? The thought is typical of one wing of the sceptical forces in history, and might be traced most interestingly through the centuries. The other school—of Timon in the ancient world, and Montaigne in the modern—extolled convention, the obedience to the customs and usages of our environment. Montaigne—we seek to affix no label to the brilliant essayist who wrote in so many different moods—suggested that we should abide by the customs of our own country, seeking neither to alter nor explain them. We quote a passage from the delightful translation of Florio.¹ "Me seemeth that all severall, strange, and particular fashions proceed rather of follie, of ambitious affectation, than of true reason: that a wise man ought inwardly to retire his minde from the common presse and hold the same liberty and power to judge freely of all things, but *for outward matters, he ought absolutely to follow the fashions and forme customarily received. . . . For that is the rule of rules, and generall law of lawes, for every man to*

¹ Montaigne, "Essays," vol. i. chap. xxii., "Of Custome".

observe those of the place wherein he liveth." Montaigne, of all people, is not blind to the bewildering diversity of customs in the different centuries and different places. He loves to recur to this very theme, of the strange lack of uniformity in the smaller and greater usages of men. But his "rule of rules and generall law of lawes" is none the less clear and uncompromising. Moreover, he is merely following, and expressing in his own incisive way, the second great current of sceptical thought, as applied to life and conduct. Of the two schools, that of Carneades will undoubtedly make the wider appeal. We may take a critical glance at each of the alternatives.

The "Local Conventions" Theory Exasperating.

The solution offered by Montaigne—we only refer to him as an interesting and typical exponent of a school—seems perilously unreasonable. Why, we ask involuntarily, should we commit ourselves blindly to any code? Why, if there is nothing that cannot be queried—"que sais-je?"—if there is nothing that cannot be riddled with doubts, why should we accept, without question, reason, or motive, the beliefs and traditions of our people? Why this sudden worship of ancestors and contemporaries? Because, perhaps, like Coriolanus,

. . . Customs calls me to 't,
 What custom wills, in all things should we do 't,
 The dust on antique time would lie unswept,
 And mountainous error be too highly heap'd
 For truth to o'erpeer.

Is this the reason? But let us in our natural candour observe that it is no reason at all, but only a dogmatic assertion of the necessity. "Follow the customs of our ancestors!" The formula sets us musing. How can I be certain that they exist or existed? And "my" country too, what gives me this quiet assurance of its compelling power? Does it exist? Why should I not question the utility of every law and every

custom, just as I was taught to query the truth of every statement?

Why should I forego my own code to follow that of any community? Why blot out my vision of personal pleasure and gratification in favour of a code, which, like all else, is shaken with doubts? Why should I not give rein to every desire, and thus mould my life as I will?

These questions are reasonable, urgent, and even necessary, if we are not to blind ourselves wilfully. We men ought not, unless it is absolutely necessary, to behave as sheep who leap and gambol for nothing at all with true "follow-my-leader" instinct. If Montaigne and the other sceptics cannot give an answer to our leading questions, they give us merely a philosophy for sheep—a herd-morality, resting uniquely upon the herd-instinct. Montaigne, with the imperturbable "que sais-je?" has no reply, no defence, no reason, no canon. Like all other sceptics, once turned teacher he becomes the worst and most intransigent of dogmatists. He imposes upon all a whole vast code of laws and customs, without ever granting either himself or us the trace of a sober, lasting reason. It is only an echo of the old story. If thought be a game of chance, human conduct is a game of sheep.

Possibly the sceptic may answer that it saves trouble to follow received laws and customs; that it prevents friction; that men by following the usages of their fellows live peaceably and avoid persecution. As a slender defensive plea such a statement might pass. As a philosophic reason or ultimate argument in defence of human conduct, it is clearly impossible. One might even suggest that it is a cowardly if not a craven outlook on life, this consecration of public opinion, and refusal to reason or to think because of the possible antipathies of men. In matters of practical indifference, it is easy to surrender one's judgment and to follow the lead of others. But when interests are roused, when our vision of what we desire is clear and precise, and when the desire itself pulsates vehemently within us, shall we surrender our judgment then? In

such moments even the most timid and languid of men might challenge the binding-power of laws and customs. If a man were thus driven to throw down his challenge, he would need something more by way of defence than the gaunt statement that the laws bind because they exist.

For the rest, if the sceptic admits that his conduct is unreasonable, we can only agree with him. If, in spite of this confession, he remains unmoved and serenely contented, we must record our inability to guide our lives by a code which is avowedly an unreasoning emergency-exit from the difficulties that must be faced.

Many of the sceptics have maintained with ill-concealed pride that their system liberated thought. A sceptic, they say, is no vulgar partisan. He is free to roam over all the fields of thought, free to admire and to sympathize with all things, however contradictory; free, that is, as the winds and waves and the birds that sing. We have heard this said, and it may be so, but we observe that he is *bound*, under pain of losing his sceptical freedom, *to suspend judgment*. He is bound, that is, to forego all craving to know, to settle, and to decide; to forego all our natural longing to fix a scale of "values," that shall be a guide amidst the whirl of things and the dance of circumstance. Even if there were only this severe limitation, the freedom of the sceptic would be bought at a great, indeed an exorbitant price. But in a system such as Montaigne's, or of any other philosopher who preached "convention," "custom," "tradition of our fathers," there is something far worse. Not only do they fail to liberate thought—a swallow with clipped wings is scarcely "free" to fly!—but they enchain life and practice, indeed the whole sphere of conduct, with a strange absence of mercy. They would bind us to the incredible extent of making us pass our whole lives in blind obedience to an unexplained and inexplicable code. Such "freedom" would be slavery. We should be free only to hear the "clank" of our chain as we wandered, spirit-free, within the confines of our "brazen prison".

Montaigne's suggestion, indeed the whole sceptical doctrine of convention, is profoundly unreasonable and therefore unacceptable. They saw, these sceptical "conventionalists," the necessity of establishing some theory of conduct. In face of a desperate emergency, they built their theories, which have no foundations, and which bear no scrutiny. They ignore the dignity of our nature.

The Probability Theory Admirable but Impossible.

The alternative of Carneades—search not for the true, but the probable, and follow the highest probability—is far more attractive, and, at first sight, appears eminently satisfactory. After all, we may reflect, this very method is indispensable in ordinary life. We are frequently faced by uncertainty in the affairs of every day. If the doubt persists, and if some action is necessary, we sum up the "pros" and "cons" and follow the line of probability, of the action which commends itself most after reflection. Thus we all instinctively apply the canon of probability from time to time, in making our decisions. In fact, "doubt : reflection : probability : action" would seem, in very deed, to be one of the guides of life. Now the doubt of the sceptics is "all-embracing," leaving nothing untouched. Why not, therefore, apply the normal code "doubt : reflection : probability : action," to solve the sceptics' problem of conduct? Above all, why should a sceptic, who acts in this way, seem less reasonable than the rest of us, who are all forced to adopt the canon of probability from time to time?

Why? The reason is very simple. There is no vestige of a parallel between the two cases.

In the moments of doubt which occur in our ordinary practical lives, we—who are not sceptics—have at least a number of fixed principles and laws of conduct of which we are absolutely certain. Our doubt, therefore, turns *not* upon the principles themselves, of which rightly or wrongly we are certain, but upon the application of the certain principles to the circumstances, or case in point. We undoubtedly weigh "pros"

and "cons". Each "pro" and each "con" expresses some certitude—the heart of each is the certain principle. If we were not certain of the "pros" or of a particular "pro," we should be obliged to weigh up the "pros" and "cons" in its favour, to discuss all the arguments for and against each statement, and each factor of our probability, and so on, as we chased our doubt—or is it our temperament?—out along the weary, never-ending road of uncertainty. No! each "pro" and each "con" has a kernel of certainty, and, thus, every probability of ours in ordinary life, which springs from the balance of "pros" and "cons," is fixed and founded upon some certitude.

The sceptic finds himself, awkwardly enough, in a very different position. When he is certain of nothing, holding himself aloof from any bias in favour of either of two contradictory propositions, how can he possibly *begin* to find reasons for or against a particular action? He starts, let us say, and desires with all impartiality to sum up the "pros" and "cons". So far, so good: the desire is excellent. First, he feels impelled to inscribe a "pro" on his list, but if he be a real sceptic, he will hesitate, lest, perhaps, he should commit himself to a decision in a rash moment. With reluctance he turns to deal with a first "con," finding unfortunately that there dance in his consciousness only the time-worn questions, "What do I really know?" and "How can I really know anything?" Queries will not make "pros" or "cons"; they only complicate, with all the old sceptical trappings, the very possibility of a decision.

There remains only one of two alternatives: either to do nothing—a difficult motto for practical life!—or else to act on the dictate of impulse, in which case the supposed canon of probability is thrown overboard and allowed to sink. Thus if he is true to his own code, the sceptic will query everything as he goes along, and finally arrive, not at rational decision or probability, but at the wearisome reiterated question, with which he started, "que sais-je?" There is only one way out

of this dilemma—a leap in the dark performed by one who knows neither “whence” nor “whither,” neither “how” nor “why”.

Obviously, too, if we wished to be insistent at the expense of a vanquished opponent, we might taunt him with the “isostheneia”—the equal strength of opposing arguments—which prevents the first step on the road towards the longed-for probability. But we refrain. Let one thing stand out, however, in high relief from these brief considerations. Probability is impossible without certainty.

The doctrine of Carneades seemed hopeful, wise, attractive: it is only impossible because of the professed absence of the indispensable, basic certitude. Our summary then is sombre—the darkest and most unrelieved that it will ever be our duty to make in the study of philosophy. Of the two sceptical codes which yield a rule of life—those which give no code stand convicted of unpardonable levity—one is unreasonable to the point of exasperation, and the other intrinsically impossible. Thus the most pressing question, how we are to live, not what we are *to think* but what we ought *to do*, receives no answer. The two emergency solutions—the desperate remedies offered to meet a desperate necessity—crumble into nothing at the cold touch of consistency. *With this bankruptcy of reason, reasonable action becomes impossible.*

Philosophies, as a rule, set out to explain and interpret the whole vast scheme of things, and to provide some code of action. Scepticism interprets nothing, and can suggest nothing by way of a moral code. May we not submit, with confidence, the following summary? Its attack on its opponents is strangely arbitrary: its own defence is weak and inconsistent. *It is, in a word, a philosophy of temperament and not of reason; an attitude, a tendency, an outlook on the world, the cry possibly of a mind that is overstrung, a revolt against the sureness of the dogmatists, or the delicate rapier-stroke of a mind bent on destruction: but never by any chance a reasoned scheme of thought and life.* Without reason, motive, or canon, this

scepticism may indeed be a menace, but not an insurmountable obstacle to the philosopher bent on inquiring into the theory of knowledge. The sceptic had best keep silence, knowing in his heart why he is silent. His "philosophy" will not bear the "dry-light".

CHAPTER III.

DOGMATISM.

AFTER considering the philosophy of doubt and uncertainty, the vacillation and compromises of the Sceptics, we naturally turn to deal with the Dogmatists, who represent the great opposing tendency. They stand to rescue certainty at all costs, violently if need be, and they, too, like the sceptics, cannot brook the contradictions and lapses of the multitudinous systems. Philosophers have said their say, and philosophers have denied the saying. To a bewildered, almost scandalized world, the dogmatist cries "Thus saith philosophy". His attitude has much of the hastiness of those who turn from "theory" to "practice," whose cry is not for thought but for action. He will not pursue the path, the tortuous winding path of question and difficulty. It may all lead he knows not whither; in any case, he thinks that path leads from the light into the darkness. Intolerant of subtlety, anxious that our thoughts should not lead us out of the beaten track of certitude, the dogmatist bases his philosophy, not upon reason triumphing over doubt and difficulty, but upon our natural "realist" convictions. His voice has something of the prophetic ring, though he tries in vain to give it the unimpassioned tone of the philosopher's.

He argues, indeed, but hurriedly, as one who is really too busy for these "academic" discussions. Whoever solved any question by debate or dispute? His theory carries with it, too, something of the inspiration, something of the enthusiasm of one who feels a divine commission to liberate men from their doubts. He enters the lists against the sceptic: charges against

his adversary with one vicious thrust : turns and cries, " behold my triumph ". Only with his " will to believe " in victory, he has forgotten to note that the sceptic was only " thrown " and not put " hors de combat ". That last fact matters little to the dogmatist. He lives his life, believing that he has slain his adversary—a belief which adds a touch of irony to his prophetic deliverances. In any case, it is deeply interesting to observe the different effects produced upon different types of mind by the observation of the same facts. The fact is the discord and contradiction reigning among philosophers. The sceptic curls his lip and passes away from this Babel of voices. The dogmatist clenches his teeth and resolves to " cry down " the discord.

The Making of the Dogmatist, The Temperamental Coefficient.

Temperament and natural disposition, as we saw, play a large part in the making of sceptics, and the same is equally true of the dogmatists. There are people who are born to grasp certain " truths," to possess them with certitude, and to assert them with unflinching vigour. Certitude is the sovereign rule of their minds, the paramount claim of their nature. Doubt with them, when it is found, is the affair of a few moments, during which they prepare restlessly for some assertion or decision. They allow questions—that is, a limited number of discreet questions—provided they are not pushed too far into the " arcana " of things, or of their system. They even allow some inspection of their arguments, provided the major premises and basic principles remain untouched. It is, if not ruthless, at least impolite to deny the major premise. Now as nearly everything of importance is contained in the major premises, the mainsprings of any argument, the limits of the dogmatist's inspection, are almost fretfully narrow. Doubts are jetsam, difficulties flotsam : they would only encumber the safe course of H.M.S. Certitude. The dogmatist, too, naturally looks askance at any continued suspense of judgment. He regards it as a study in pathology, a kind of nervous debility that may lead to

the insanity of persistent doubt. His examination of "pros" and "cons"—there is *here* no lack of the necessary certainty!—is always weighted by one conviction: problems were made to be solved, just as life was made for action. This dogmatist type is frequently found among men of rapid decision and determined will whose bent is wholly practical. It is, however, by no means rare even among the men who feel the allurements of speculative philosophy. Wherever it is found, the dogmatist mind is one that is cast for affirmation and certainty.

The Cry for an Unbroken Uninquisitive Peace.

So far there is a strange parallel between our setting of the two antagonistic minds, in their vision and mistrust of the philosophers' contradictions, and in the all-unconscious play of temperament. But we may go further. The "ethical factor," which goes to the making of sceptics, is equally capable, granted a different temperamental coefficient, of producing a dogmatist—a strange and ironical turn in the wheel of Fate! The thought of the serenity that springs from an attitude of impartiality and aloofness has led many a sceptic to avoid all trouble, and to escape the possibility of persecution by renouncing all right of assertion. Why should he "descend" to the arena of polemics, with all its dust, fatigue, and heat, when he can recline and watch it all as a critical, calm spectator? In the same way, the dogmatist's desire for happiness and unbroken peace of mind will lead him, not to suspend judgment, but to lay down firm and unquestionable principles. "To go on questioning every statement untiringly," he will muse, "leads only to misery. One query leads to another; one doubt to a second, until the very foundations of everything seem to rock and sway." Or, to change the figure, he will say, "We begin in the twilight and end in obscurity, in the cheerless darkness of an all-enveloping uncertainty". It is better, therefore, not to set one's foot in the way of criticism, which was ever the way of the sceptic. Why not maintain the little measure of happiness and serenity

that comes with peaceful conviction, by a judicious dogmatism? Why leave the beaten track of our natural, spontaneous, and even intuitive convictions, to lose oneself in the forest? Why give rein to a curiosity which may bury us amidst the ruins of knowledge? Why forget that this problem of certainty contains, implicitly, the meaning of Life and Death? How can a man relinquish his hold upon all things, every hope, love and fear, for the sake of a few impertinent, whimsical questions? Let no enthusiasm lead one out along the winding-road of question and difficulty. The fate of such an enthusiast is dark and awful. Weary and famished, at nightfall, he will hear the blood-curdling "squeaking and gibbering" of the Universal Doubt. No! it were better to forego the inquiry, and so preserve our peace. It is the old longing for the ataraxia of the Sage, which is shared by the sceptic and yet sought so differently.

In our effort to understand the dogmatist mind, we have been forced to emphasize his deep, abiding fear of scepticism. If there were no such dominating fear, the whole problem of knowledge would be opened up, hopefully indeed, but with philosophic impartiality.

The dogmatist shows no such hopefulness, and little of the impartiality. He fears the consequences of philosophic inquisitiveness, and so cuts short the whole questioning process in life as in the schools he limits his criticism to the minor premise. He shows his fear, moreover, in the vigour of his assertions, in the effort of the will to forget the closed door with all its unpleasant possibilities. In his cupboard there is ever a skeleton—scepticism. When men affirm things very vehemently, we may legitimately suspect that they are making an effort to convince themselves as well as others.

Now this whole temper of mind shows itself very forcibly, not only in the conclusions, but also in the method of the dogmatists. They have a way, as we shall see, of formulating certain consecrated principles, or of standardizing certain "facts," which they then declare to be indubitable, invincible,

and axiomatic. Wherever they require a principle, they find—as though sprung, armed cap-à-pie from the brain of Zeus—a “primitive” truth; wherever a fact is needed, they find a “primordial” something. Their defence usually runs along these lines. Scepticism, by which they mean a theory of universal doubt, is both inconsistent, and, as we infer from its vacillation and compromise, impossible. To scepticism, they continue, there is only one alternative—dogmatism. Short of blind-folding ourselves wilfully, there is nothing left for us but to join forces with the dogmatists. Let us, therefore, acknowledge, with candour, what we really are, and what we necessarily must be—dogmatists. A glance at the actual thought of some of these philosophers will render our point clearer, and a general critique easier. Like the Wise Man of the ancient world, each of the dogmatists is “above any possibility of error: the *katalēptikē phantasia* gives him as certain a knowledge of his dogmas as he has that two and two are four: he will never hold an opinion: he knows”.¹

The Code of an Unflinching Dogmatist.

One of the most fearless and least compromising of all the dogmatists was Jaime Balmes (1810-1848), the distinguished Spaniard who played throughout the eventful years of his life an important part in Spanish history. In the opening chapters of his “*Filosofía fundamental*” he gives us a powerful sketch of his dogmatism. Early in the second chapter, we note the delimitation of the whole inquiry, the surprisingly, indeed disastrously, narrow “terms of reference”. “That bodies exist is a fact that no man of sane mind can doubt. . . . Explain it, perhaps, we cannot; but we certainly cannot deny it: we submit to it as to an inevitable necessity. . . . Philosophy (thus) should begin by explaining, not by disputing the fact of certainty. . . . A thoroughgoing sceptic would be insane, and that too with insanity of the highest grade. . . . Whoever begins by denying or doubting all facts is like the anatomist,

¹ Bevan, “Stoics and Sceptics,” p. 141.

who, before dissecting a corpse, burns it and casts its ashes to the winds. . . . But, some one asks, philosophy begins with an affirmation, and not with an examination? Yes, this is true: it is, moreover, a truth whose admission closes the door on much sophistry, and sheds a brilliant light on the theory of certitude."¹ We might suggest that it sheds a brilliant, even lurid light on dogmatism, with all its limitations, its self-complacency, its tendency to use rhetoric, its fear of scepticism. . . . "Certainty," we read a little further, "is to us a happy necessity: nature imposes it, and philosophers do not cast off nature. . . . There never was, in all the rigour of the word, a true sceptic." Berkeley, he says, deserved to have said of him, "insanity is insanity still, no matter how sublime it may be". Hume, Fichte, Pyrrho are summarily convicted of inconsistency, and dismissed in a few lines. "This method of philosophizing is somewhat dogmatic," Balmes continues; but "it is not simply a method of philosophy, it is the voluntary submission of our very nature to an inevitable necessity, the combination of reason with instinct, a simultaneous attention to different voices calling from the depths of our soul".² One might think that Balmes was preaching a crusade! He is certainly preaching a most unqualified form of dogmatism. Without any trial or inquiry, knowledge and certitude are to be vindicated. We may just glance at the later sequence of ideas.

Taking up the problem which Descartes had flung into the camp of the modern philosophers, he asks if there is any one primordial truth from which all others may be deduced, any one great certitude from which all others flow. The passion for unification, the dream of the deductive philosopher, who would turn every science into a species of geometry, is seen to a nicety in the very question. Our knowledge would be summarized in one great "fons et origo" truth, and the rest

¹ "Filosofía fundamental," chap. ii. The English is partly borrowed from Henry Brownson's translation. New York, 1856.

² Op. cit. cap. ii.

would be a matter of "barbara celarent". Balmes, on examining this question, was forced to admit that one such truth does indeed exist for God, but that no analogue could be found in our human knowledge. No one truth can be found to include all others implicitly. Truths, he suggests, are of two kinds, "real" and "ideal". We call facts or whatever exists, "real" truths: we call the necessary connection of ideas, ideal truths. Now each of these truths, each type of knowledge, stands facing the other, locked in its own domain.

All our knowledge of facts, our perception of things, are simply facts, no more, no less—important, unquestionable, ultimate. But without some use of principle, or some of the generalizing play of mind, they must necessarily remain sterile, an army of data without further significance. They are given—that is all. No such truth, as a fact, can be expected to serve as a fountain of certitude or to help us to gauge, for instance, the truth of the principles by which we think. When, further, Balmes searches among his "ideal" truths, he is driven to the same conclusion. The principle of contradiction, for instance, of which we are so strangely certain, leaves us, on examination, with the simple affirmation that a thing cannot both be and not be. It is simple and ultimate, but will never lead us to conclude the existence of any reality whatsoever. So, likewise, for the other principles or ideal truths: they lead us no further than themselves. The rest is obvious. As our whole fund of information about the totality of things is made up of knowledge of facts, and knowledge of principles, and as neither can lead to certitudes of the companion type, it follows that we cannot possess any one "fons et origo" truth or any "portmanteau" certitude from which all others may be unpacked.

The Cartesian question is thus given a very decided and negative answer. In the next step, the dogmatic philosopher shows his real instinct. As no one fountain truth could be found, he concludes, at once, that there must be several. What could be more simple or obvious to one who sets out

to place the philosopher's seal and "imprimatur" on the realism of plain men? Unabashed, Balmes proceeds not indeed to question and search, but to lay down laws, discovering fundamental truths, wherever he felt the need of a bastion in his fortifications against the sceptics.

There are, he maintains, three distinct ways of acquiring knowledge or—the phrases are synonymous to the dogmatist—of perceiving truth. There is first, the immediate grasp of consciousness, secondly, the method of evidence, and lastly, what he styled by a barbarous combination of words, an intellectual instinct or intuition. By the immediate grasp of consciousness, we are convinced of the existence and truth of all those things which are immediately present to our minds. By the collection and manipulation of facts, or what comes to the same thing, by the method of evidence, we reason about "objective" truths, and penetrate, by the use of reason, into the real world. Lastly, by our intellectual instinct, we are sure of certain truths which depend neither on the use of evidence nor on the immediate witness of consciousness. Immediately, intuitively, for instance, without any play of reason or collection of evidence, we have an irresistible inclination to recognize the "objective" value of our ideas or concepts. The inclination cannot be gainsaid: it is the work in us of our "intellectual instinct". At the basis of all our knowledge of the first type, there lies the "fundamental truth" that consciousness is eminently reliable. At the basis of all necessary truths, in the sphere of our rational operations, there lies the unquestionable principle of contradiction. Thirdly, our calm belief in the value of our concepts, and of their applicability to the real world, rests securely on an instinctive and presumably unquestionable law of the human understanding. Our knowledge is thus made to rest on the triple, consolidated basis of those "fundamental" truths, and Balmes proceeds to show that no part of the triple foundation can be shaken, without endangering the whole edifice.

In other words, we are given a clear-cut alternative, almost

at the point of the bayonet. Either accept these "primordial" truths, or else yield to the doubt and hopeless uncertainty of the sceptics. "I am aware," says Balme towards the close of this dogmatist "tour de force," "that some philosophers of our age . . . deem it necessary, when they examine the fundamental questions of philosophy, to shake the foundations of the world : and yet I have never been able to persuade myself that it was necessary to destroy in order to examine, or that in order to be philosophers, we ought to become madmen."¹ And the first book—his treatise on certainty—closes with these strange words : "For my own part I do not seek to be more than *all* men ; if I cannot be a philosopher without ceasing to be a man, I renounce philosophy and adhere to humanity".

That, to be brief, is our case against the Spanish philosopher. He has adhered to humanity only too well, humanity, that is, "taken in the rough," and given us a theory of knowledge that deserves to rank with the realism of plain men, which it consecrates and epitomizes. Besides, one calls to mind involuntarily the remark, "Methinks, the lady doth protest too much". There is too much protestation, too much vigour, far too much assertion of the will at all the critical breaking-points of the system.

The problem of knowledge is thus "solved" and we find ourselves in presence of the most unflinching dogmatism, both in method and conclusion. All that is necessary to secure tranquillity of mind, and to substantiate certitude, is here given a philosophic setting. But where are the questions, the criticisms, the doubts? Where, in all this, do we find the least trace of difficulty, or the vision of a problem? We have already suggested that difficulties abound, and that no simple "off-hand" solution of epistemology is possible. One has an uneasy feeling on reading Balme that, if the difficulties were ever discovered at all, they were buried quickly out of sight. As a direct result, he did not even touch one of the real prob-

¹ Op. cit. cap. xxxiv.

lems in this philosophic discipline—a Nemesis which awaits nearly every dogmatist. The whole scheme reveals a mind bent on consolidating the convictions of the mass of men, ready to manufacture both conscious processes—such as an intellectual instinct—and criteria in the service of his cause. That cause, the vindication of truth and certitude, is truly magnificent. The system, however, is so strangely unconvincing, that we instinctively recoil with the words, “non tali auxilio”. Into this Balmesian code one might fire shot after shot, but we prefer to consider a more careful and more subtle form of dogmatism, before passing to criticize the school. As articulated by some of its more brilliant exponents, the dogmatic system can be rendered undoubtedly attractive.

Dogmatism at its Best. Its Finesse.

The work of Palmieri (1829-1909) in his “*Institutiones Philosophicæ*”¹ on this point is certainly not without sustained interest. He follows in the tradition of Balmes, whose position he adopts and adjusts. Certitude, he maintains, is the firm adherence of the intelligence to a perceived truth, and here in the opening statement, we see, all too clearly, the dogmatist assumption. Why need the “statement” to which we adhere with certitude be true? Can we not be certain of many propositions that are sadly wide of the mark? However, let us set out Palmieri’s doctrine as far as possible in his own words.

He begins with a challenge to the sceptics, holding that the universal doubt, whether it be about facts or principles or things, is intrinsically and necessarily inconsistent. He adds that we need not trouble to demonstrate its absurdity. It stands condemned by the immediate findings of the “court of first inquiry”: moreover, a real sceptic—how gratifying this unhistorical reflection must be to the dogmatist—never did or could exist, as universal doubt is a sheer impossibility for the human mind. This is one short thesis, in some two and a half pages of succinct

¹ Vol. i. sec. ii. cap. i. “de certitudine”.

and forcible Latin, the whole philosophy of doubt and uncertainty is dismissed. Now while we agree with the conclusion, which in some of its less intransigent aspects is identical with our own findings, we cannot help feeling that scepticism has been not examined and cross-examined but rather laughed out of court. If a sceptic permits himself a categorical statement, in the heat of some argument, it is easy though possibly a little childish to revel in his inconsistency. But supposing a sceptic says, not "that everything ought to be doubted," but "*perhaps* everything ought to be doubted," or "ought not everything to be doubted?" What then?

Palmieri's answer is amusing. First, this is not, he says, the opinion of the sceptic, and secondly, he adds, one may always ask if the statement beginning "perhaps" or the question is true. If untrue, it is of no consequence: if true, the sceptic is "nailed" to a positive assertion. Clearly he is writing about "*scepticismus*," which, like many another "ismus," never existed outside the textbooks, and not about scepticism as known in history. After this conviction and condemnation of universal doubt, what more natural than that the dogmatist should proceed to construct? Moreover, the next step which leads so far is almost as simple as an algebraical inversion of the first. It is absurd, he says, to postulate that our reason admits nothing that is not proven. There must, that is to say, be a certain number of propositions which are both indemonstrable and certain. If there were not, we could obviously question everything, pushing our inquiry right back to some basic proposition. The bases in turn would be shaken by question and difficulty, and we should find ourselves committed to the universal doubt of the sceptic which the first thesis has proved to be impossible.

Obviously, then, it is impossible to seek proofs for everything, or, in other words, certain propositions must be evident without proof. These propositions, three in number, are styled the "primitive" truths—there is something very characteristic and very convenient or, as an enemy would say, adroit, in the choice of these terms "primitive" and "primordial"—and are to be

found contained implicitly in every certain judgment that we make. The reader rubs his eyes? Let him preserve his wonder. By means of these primitive truths the mind ultimately settles the problems of all other truths. They may thus be legitimately styled not "*fontes*" but "*fundamenta*" of all certainty.

And the truths themselves? What are these truths or principles which "*sua luce clarescunt, sole meridiano clariora*"? There is the *first principle*, that of contradiction, that nothing can both be and not be. Secondly, there is the *first fact* that the thinking subject himself exists. Thirdly, there is the *first condition*, the truth that the human mind has a natural aptitude for knowing, for grasping the real nature of things. These three truths, which form a splendid foundation for a theory of knowledge, are here brought to light; as a matter of simple fact they lie embedded, Palmieri contends, in all our certain judgments; "*qui ea negant indigent helleboro*". If we had no criticism to make, no unwarrantable assumptions to indicate, we might close this essay, or at best add a few words and draw a few conclusions in an epilogue.

Palmieri proceeds to show the neatness of this philosophy of knowledge. The principle of contradiction, which is the most universal and also the most necessary in its application to all beings of whatsoever kind, gives us at once a datum about reality. The existence of the personal, thinking subject gives us, on the other hand, the first great truth in the subjective order; for without a thinking mind that order would not exist. We thus know something about reality, and something about the minds with which it stands confronted. There remains only one other desideratum, to wit, some bridge between the world of things, and the world of minds. Incidentally, this is the weakest part of his general structure. Now, naturally, a most satisfactory bridge is found in the principle or truth that the mind is made to know things other than itself, to register accurate information about the real world. If simplicity and beauty of structure were the marks of true philosophic theory

—we should rather suggest, complexity and ruggedness!—then Palmieri's theory would lie beyond the pale of question or reproach.

Once again it is clear that such a system is not a product of heart-searching or of obstinate questioning. Where, we ask again, are the problems, or where is the vision of the real, abiding difficulties? It bears all the outward semblance of a theory, meant not indeed to answer difficulties or to question doubts but to clear the way for further philosophic construction. The cry is ever "avanti"! The logical process is admirable; only perilously few facts are surveyed before we find ourselves leaping from syllogism to syllogism along the a priori way. In consequence, it is difficult to know where to begin our criticism. To discuss this dogmatic code in terms of its omissions, which extend to nearly all the problems in this discipline of knowledge, would perhaps be too relentless. We shall therefore content ourselves with a frontal attack on its assertions. Do these assertions, as they are actually made by the dogmatists, carry conviction and silence doubt? That is our only problem. The actual conclusions of the dogmatists are admirable. Does their method, and their presentation of the case, go to support their valuable conclusions?

Critique of Dogmatism.

The three great primitive truths, it is maintained, are to be found implicitly in every certain judgment. Thus, if I affirm that America exists, or that two straight lines cannot enclose a space, there lie just below the surface of my thought the assertion of the principle of contradiction, the fact of the existence of the self, and the certitude that the mind is capable of grasping the real world. Now what is meant by the phrase "contained implicitly"—"continentur implicite . . . affirmatio . . ."? A judgment is, after all, a psychological act, an event in consciousness. Its "reference" and "significance" may easily be "extra-mental," but in any case a judgment is a *conscious* event or fact. To find what such events "con-

tain," there is for the psychologist and philosopher only one valid means—introspection. Now introspection, though a code of laws and conditions of its validity exist, is a personal matter, and if any dogmatist on introspection finds all these bed-rock theses concerning the primitive truths, we can only wonder or—to be more frank—doubt the validity of his introspective analysis.

Moreover, if he really finds so much, we can only marvel at his restraint in not finding more. Personally, in spite of a very real and even pertinacious effort, we discover nothing of the kind either at the focus or margin of consciousness; any more, for instance, than we find the Euclidean axioms, the truths of Revelation, the maxims of Ethics, or the physical laws. What may be going on in the silent, unexplored region of the sub-conscious, we do not know, but neither, for that matter, we would gently urge, does any dogmatist. It is quite true, as we shall see later, that the principle of contradiction is asserted implicitly in every statement, whether positive or negative. But this, as we might have anticipated, is an affair of analysis, and not of introspection; of logic, and not of psychology. All that we mean is that our judgments would cease to be significant assertions, unless the principle were true. So much we shall be forced to allow on examining the question. But it is a far cry from this to the statement that the principle is really "contained" in every certain judgment. However, as we do not wish either to appear or to be unsympathetic, we may turn to a criticism which is far more vital.

Who, to get to the point at once, can find the truth of his own existence contained in any judgment? I am convinced, let us say, that Edinburgh lies to the North of London. I make the necessary judgment, and then introspect, to find what it contains. All that I find is a little group of ideas and fleeting associations about two towns, a little faint schematic imagery, and possibly—if we follow the experimentalists—a certain muscular "feeling" which in some vague way stands for the direction "North". There is no "I," no "self," and the

question of my personal existence cannot be discovered even far away at the margin of consciousness. Let the reader experiment for himself.

No! the facts of the case with regard to our judgments are very different. There are a multitude of processes which play their part for a while, and then disappear from consciousness. Of some of these we are fully aware, and by turning our thoughts back upon these ephemeral events, we may scrutinize them still more closely. The introspective examination reveals, of course, nothing more or less than the processes, just the sensations or feelings that we undergo, or the judgments that we make. To be quite accurate, a good introspection reveals, as a rule, not what is proceeding at the moment, but what has just transpired. From what we find in this way, it may indirectly be possible to deduce the existence of a "self" or "ego," but it must be patent to all that no man ever stands face to face with his own self or "person" in consciousness. Indeed, millions of men in the East, with some thousands of disciples in the West, have taught and believed that the very idea of a "self" is a tyrannical illusion. In any case, we are so constructed that the vision of one's own self in introspection is not possible. We can at best contemplate one or more of our typical reactions, what we *do*, i.e. what we desire, feel, know—but not what we *are*.

No doubt many of us are certain of our personal existence; that is, if not all, at least most of us who live in the West. But that certitude, which we hope to defend, is due to a critical examination, an explanation of life, or to some spontaneous metaphysic to which we cling tenaciously. It is not and cannot be an immediate datum, nor can it be "contained" in every certain judgment. Even to say that the very existence of a judgment demands as an indispensable condition the thinking self is to make an unwarranted assumption. Whence comes this conviction of the self? Is it a native prejudice of us Westerns? Is it a mere realist pre-

possession? Or is the self a demonstrable entity? Clearly, the self must be proven and not assumed.

Now, as we have seen, Palmieri, and many of the dogmatists who believe in these "primitive truths," make a sudden leap from psychology to ontology or metaphysic. From discoursing about judgments—psychological events—they suddenly wheel round with a theory of reality and a whole metaphysical doctrine of the self. From discoursing, literally, of "such stuff as dreams are made of"—conscious processes—we are suddenly brought face to face with a whole army of metaphysical realities—selves, to wit—armed to the teeth with dogmatist arguments. They start, in other words, with a psychological judgment, and then rapidly and furtively construct a whole metaphysic which they proceed to unpack, like veritable conjurers, from the unsuspecting judgment. One can pass from psychology to metaphysic, it is true, but only after inquiring into the value and significance, not to say implications of the psychological processes. The passage, that is to say, is via the theory of knowledge, which the dogmatists strangely enough omit! To leap from conscious events, to statements about reality, from possible "dream" events to actual existent realities is, of course, to do violence to philosophy.

Moreover, the resultant confusion is disastrous, for if psychology, logic, and metaphysic are not held apart in the theory of knowledge, we may expect to find not a philosophy, but—what is all too frequent—a jumble of what is, what ought to be, and what must be. The dogmatist, then, in constructing or discovering the primitive truths makes a truly wonderful, but wholly unwarranted leap not in the dark, but into the light. As a direct result, his dogmatism hangs luminously in mid-air. But there is more.

We have shown that the question of the existence of the self cannot play any part in our ordinary judgments. In any case our natural bias in favour of a self must be vindicated. Let us now concede, just for the sake of argument, that we really do find the assertion of our own existence reiterated

with strange persistence in every judgment. Or, let us say that, on analysis, we perceive that our existence is the *first fact*. What then? It is there: it is asserted: it is reiterated: or it is extracted over and over again. By all means; but is it valid? Is this certitude, which I repeat to myself with such unflinching regularity, really justifiable? If so, what is the justification? Where is the proof, or the suggestion of a criterion? Is it an intuition? If so, what is the criterion of a true intuition? Or is constant repetition the dogmatist's criterion?

These questions are surely the capital points for the epistemologist—the real object of his inquiry. The dogmatist, therefore, after unearthing the assertions of his personal existence, would really be bound to show that it could not rationally be doubted in the light of any facts; that it could not possibly be erroneous; and lastly, that it was the minimum necessary assumption to explain the data of consciousness. The dogmatist, as a matter of fact, makes no such inquiry. He is in a hurry, and is led away by the vehemence of his own desire which prompts his thought, to “scamp” the necessary questions. To assume a satisfactory answer to these highly important problems is, of course, to beg the question, to omit the substance of epistemology—in short, to dogmatize. It is often quite lawful to assume what one *cannot* prove, provided one is frank in stating the assumption; but it is never desirable to take for granted what one *attempts* to prove.

The last of the three primitive truths, which we can extract from every judgment, deals with the natural aptitude of the mind to know and understand the real world. One searches in vain for any such certitude by any process of introspection, though doubtless, on analysis, it turns out to be a conviction shared by all who have not resigned themselves to scepticism.

Obviously, that is to say, if after making a statement of fact we were challenged, we should affirm the third “primitive” truth, and thus show that we shared the ordinary convictions of plain men.

The fact is, of course, that all of us from our childhood have some kind of working metaphysic and theory of knowledge. We share, that is, the traditional and conventional account that is given of reality and knowledge, though these points, as such, may never be discussed explicitly. We simply accept a general theory which is implied in all that is said and done, and which forms the very framework of our language, just as we grow to share the prejudices and ideals of our class and nation.

Now one of the most widespread and possibly the most defensible of the convictions of this traditional theory of knowledge, is the belief in the existence of a real world, and in our ability to comprehend something of its nature. But that which the mass of men accept unquestionably, the philosopher discusses and seeks, perhaps hopefully, to justify. In this particular case of the mind's capacity to understand things, when the philosopher has once abandoned the standpoint of plain men, he finds himself in presence of a vast and intricate problem. Is there a real world at all? What can we know beyond the fact of its existence? How far can we ever discern its nature? And above all, in what circumstances, by what proofs, by the use of what criteria, and above all, why?

In other words, some of the most insistent and most evasive of all our problems in this branch of philosophy, deal precisely with this third "primitive" truth—the aptitude of the mind to grasp the real world. The dogmatist "solution" is even typically "simple". He merely reasserts the ordinary conviction of plain men, adding, by way of justification, that it lies implicitly in every judgment. Is repetition, or insistence, a criterion of truth? If not, how does the reiteration of a proposition add to its power of compelling assent? Thus the justification, even if founded on fact, would add literally nothing to the normal conviction of men. That conviction must be examined, not asserted: criticized and not swiftly justified by some psychological legerdemain. As this "primitive" truth stands, it is only a natural conviction stalking as

philosophy, and the dogmatist, forgetting his high calling, stoops to make a typical and unwarranted assumption. His mind, which can only "toy" restlessly with doubts, and which cleaves to his "certainties" like a needle to a magnet, has led him, in discussing or rather deciding these problems, to omit the whole theory of knowledge.

Sufficient, then, has been said to show the temper of the dogmatist's mind. They are apt, as we have seen, to find some important "intellectual instinct," some far-reaching, "primitive" truth, some "primordial" fact or condition embedded in every judgment of the human race, wherever the cause of certitude seems in danger. The "Universal Doubt" remains for them a spectre, or rather a nightmare. *The Dogmatists are at war with the sceptics, and for the prosecution of their war they issue summary decrees.*

Yet, strangely enough, these dogmatists are uncommonly like their enemies. Like the sceptics they really refuse to consider the theory of knowledge in all its deeper and more important aspects. Like the sceptics, too, they fear in their hearts that a real scrutiny will only lead to restlessness of mind, or to the loss of that serenity which they both cherish. The sceptic fears that he might be led to assert and prove: the dogmatist that the scrutiny might lead to doubt and denial. Both relinquish the problem, yielding to their natural temper of mind and character, and both lay down certain a priori principles to guide their reflections on human knowledge. No two tendencies could, in result, be more different, and yet these strange similarities exist. "Les extrêmes se touchent," at least in epistemology. The dogmatist's cause, the defence of human certitude, knowledge and truth, is excellent: unfortunately, he does not carry conviction even to minds that support his conclusions. The cause is good; the defence is bad. That is all; except, perhaps, that few things can do more harm than a bad defence of a good cause.

CHAPTER IV.

DESCARTES AND THE CRITICAL METHOD.

THE two main tendencies of thought in dealing with the problems of knowledge have been classified roughly under the rubrics of scepticism and dogmatism. Both, as we have indicated, contain many a flaw, and not a few arbitrary and therefore unwarrantable assumptions. Now as no assumptions can possibly be allowed to pass unchallenged in this ultimate inquiry, we have been obliged to dismiss both the leading theories as untenable. There remains, then, only one conceivable alternative, the way of criticism, by which we scrutinize all the important doubts of the sceptic, and then move along slowly towards the vindication of human knowledge, which is so dear to the dogmatist. Moreover, this critical method, which involves a real inquiry, made without prejudice or assumption of any kind, is the ideal method of the philosopher. Before explaining the method in some detail, however, we may introduce the reader to the new turn of thought by considering the methodic doubt of René Descartes. His writing, on this point, is vivid, and of all the modern philosophers he is surely one of the most competent and most attractive.

Born at the close of the sixteenth century, when hopes ran high that all knowledge was to be rebuilt on new foundations, Descartes set himself not to recast the older systems, but to originate a philosophy in harmony with the new spirit. The systems which, with many variants, had contented the most competent and exacting minds of the middle ages, had now entered on an advanced stage of decadence. Philosophy had

lost all its thirteenth century élan, and the older thought, which was Greek both in origin and in method, was now sometimes travestied by incapable professors. Descartes, finding nothing to satisfy his mind, turned from all the philosophic traditions of the past, as though they had never existed. There was to be a new Philosophy just as there was a new Physics and a new Astronomy. Descartes, as may easily be imagined, made many mistakes, and initiated many a bad tradition, particularly in Psychology, by misstating the terms of several important problems. Whatever his success or failure, however, the effort remains a landmark in the history of philosophy.

In all his work Descartes has the one-sidedness, and at the same time the precision—not always the ally of accuracy—of a mathematician. Whatever he is studying, he is always a geometer, bent on deducing everything step by step from the smallest number of initial principles. Anything that he could deduce from one of his leading conceptions—whether it happened to be a criterion of truth, or the impossibility of a vacuum—he held with unflinching certainty. The philosophic world has since had ample opportunity to marvel at his intrepidity.

Now it was this very characteristic of fearlessness which gave his work on the theory of knowledge, his “Discours de la Méthode,” an unusual and lasting importance. He was bent on inspecting the very foundations of things, thus showing none of the fear of the dogmatists, none of the lassitude of the sceptics. He had deduced practically the whole of his philosophy of the inorganic world from the rational analysis of “extension,” which he had singled out as the essence of matter. Similarly, most of his psychology came in a rational, logical way from the analysis of “thought” or “conscious process,” which he regarded as the essence of spirit. On turning to the theory of knowledge, with the same mathematical mind, the same deductive rational bias, he seeks *one* certitude that shall be the fount of all others, so deep, and so

far-reaching that all other certitudes can be drawn therefrom by the play of reason alone. He wanted, in other words, one certitude which should be to his theory of knowledge, all that "extension" had been to his Physics, or "thought" to his Psychology. The philosopher's dream and passion for unification is here, in the mind of a philosopher-mathematician, raised to the n th power.

Statement of Descartes' Theory.

Deliberately, then, with this one object in view, Descartes fixed his plan of search. He would split up every complex question with its constituent parts and then judge the truth of the whole by the validity of the simpler factors. He would thus direct his mind to the simplest possible objects of knowledge, "pour monter peu à peu comme par degrés jusques à la connaissance des plus composés".¹ He would take nothing for granted, but, on the contrary, would doubt every judgment he had ever made which did not present itself to his mind with such luminous clearness—"si clairement et si distinctement"—that hesitancy was eliminated and doubt impossible. In this courageous way, he would start his methodic doubt with no trace or fear of scepticism, not for the sake of doubting, but with the hope of finding one ultimate, irrefragable certitude, fount and source of all others. "Non que j'imitasse pour cela," he says, "les sceptiques, qui ne doutent que pour douter et affectent d'être toujours irrésolus: car au contraire, tout mon dessein ne tendait qu'à m'assurer et à rejeter la terre mouvante et le sable pour trouver le roc ou l'argile."²

We may briefly hint at the successive stages of the methodic doubt.

As might easily be anticipated, philosophy was the first branch of knowledge to suffer from this careful scrutiny. Descartes was seeking some one truth, which should be unmistakable and invincible to all, and he was forced to admit,

¹ "Discours de la Méthode," 2nde Partie.

² Op. cit. 3me Partie.

wisely or unwisely, that every system of philosophy might be doubted. Any one school might be doubted by another, and all the warring schools by the critical spectator. Why, therefore, trouble to seek a least common factor of certitude in the midst of clashing differences and contradictions? He decided to seek no further, and philosophy, for the moment, was committed to the deep. Thus from the beginning the whole of psychology, metaphysics, cosmology, and the practical disciplines of ethics and æsthetics lay under the shadow of the methodic doubt.

On turning to the natural and mathematical sciences—it must be remembered that Descartes was an expert physicist, and one of the pioneers of modern mathematics—he found that they were not self-supporting. They must needs look for the justification of their foundation principles to some systematic philosophy. As all philosophy could be doubted—methodically doubted, be it noted!—clearly the superstructure of the natural sciences could not hope to escape the same fate. Obviously, Descartes does not mean to suggest for a passing moment that the sciences are badly or doubtfully built, but only that it is useless to seek the ultimate certitude, which shall strike all men as invincible, in any of their facts, laws, or principles. Adopting this very special point of view, Descartes, with one stroke of the pen, marks “doubtful” all the philosophic and natural sciences. We seem well on our way towards the Void, or “the Night in which all cows look black,” but, as a matter of fact, the Cartesian assertion contains and implies no sweeping condemnation. It only means that he can seek no aid from any of these disciplines in his strange quest for a fount-of-certitude.

Having considered and dismissed philosophy and science, he now turns back—armed with his terrible iconoclastic weapon—on his own thoughts. He will reject as false all and everything in which he can discern or imagine the least doubt. “*Imagine* the least doubt,” we murmur to ourselves, as we feel that little can survive such an onslaught.

In the past many of his convictions had proved to be groundless, many of his cherished ideas little more than illusions. In the interests of truth, therefore, every single judgment ought to be doubted, for the error of one might be shared by them all. Moreover, he feels constrained to admit that all sensation may be a perversion, all imagery fictitious, all concepts false. After mature reflection it would appear that, with a little good-will, there is nothing in consciousness that we cannot doubt. The supposed "meanings" of our concepts may be erroneous, our imagery fantastic, all our judgments and chains of reasoning no more than crooked inversions. Thus every single conscious event may, by the help of some strange hypothesis or the use of some powerful doubt, be discredited. Naturally, there is nothing left, after this total shipwreck of all philosophy, all science, and all the events that come and go in the stream of consciousness, but to realize the full extent of the disaster.

The unflinching Descartes realized it to the full. The sequence of his thought is as irresistible as that of a mathematician in the middle of some long argument, or, to change the figure, as irresistible as a mountain stream in spate. He would, he saw, be obliged to doubt all arguments and all sequences of propositions, which he had formerly regarded as valid proofs—exit logic, we murmur. Every simple proposition, whether it be that two and two make four, or that a square has four sides, may fail. All these judgments, he will doubt, and if there be anything more simple, he adds, it must share the same fate. There only remained one further step to be taken. He would reject everything that he believed as the result of education or environment—how easily and bravely said!—all received opinions, as well as every tradition and custom.

Thus throughout the whole vast range of human consciousness, there was no single element or content of whatsoever kind, whether it claimed our adhesion owing to its intrinsic reasonableness or owing to the weight of some external author-

ity, which could not be dissolved by the "Aqua Regia" of the methodic doubt. In all those things there was nothing that could provide one universal, indubitable certitude, "fons et origo" of valid knowledge. The darkness has fallen gradually; the last trace of the sun's reflection has disappeared; moon and stars refuse to grant one streak of feeble grey-white light: it is night, with its ominous inky darkness at last!

Thus the term of the inquiry was reached, and with the term, the discovery of one unailing, invincible certitude—a ray of light, all unsuspected, in the pervading darkness.

After doubting, or making as if he doubted all, Descartes finds that, *when all has been discredited, and when every vestige of validity has been whittled away, he has, after all, been doubting—that something, doubt, thought, judgment or whatever it be called, had been proceeding in his consciousness.* That fact could not possibly be called into question by him or by any human being who had undergone the same experience. Whence his great certitude expressed in the forms, "je pense, donc je suis," or "je pense j'existe"—the famous "cogito, ergo sum". Speaking of this "vérité," he says, "je jugeais que je pouvais la recevoir sans scrupule pour le premier principe de la philosophie que je cherchais".¹

From the "premier principe" Descartes rapidly unpacked his philosophy—so rapidly, indeed, that it is rather difficult to decide the precise meaning of his "je pense, j'existe". By "pensée" he meant, as usual, not thought alone, but any conscious event, sensation, judgment, feeling or emotion, which was capable of being registered. By "je" he did not seem to imply any theory of ego, body, soul or substance. The "je" is really a necessity of language—though, quickly enough, in a few hurried lines, the French philosopher deduces a whole theory of a soul, and its independence of the body. By the use of the word "donc," in "je pense, donc je suis," he did not mean to suggest that he had formed a shortened syllogism; for the whole of the logical chains of

¹ Op. cit. 4me Partie.

reasoning, and the syllogistic procedure, had been abandoned in the course of his inquiry. The remark, "je pense, donc je suis," is probably nothing more than an immediate inference: there is thought, there is being.

In any case the real truth conveyed by the formula may be put very simply. If all else is doubtful, it is at least certain that conscious states exist. Supposing that I question the validity of every content of consciousness, I am forced to acknowledge that consciousness, whether true or false, exists. Even supposing, as did Descartes, that there is some malignant spirit, some "malin génie" who takes a fiendish delight—like Ariel in "The Tempest"—in twisting beyond recognition every single thought and sensation, making squares look like triangles, and men look like trees: even so, and granted that everything that transpires in consciousness is nothing but chaos, I am yet bound to concede that these conscious states, chaotic and chimerical though they be, exist. Briefly, *Descartes saw that without becoming insane, he could not doubt that he was doubting.* "Je pense: j'existe" was thus the one basic certitude saved from the wreckage of the universal doubt. There is nothing that ever did or could enter the minds of men, no hypothesis, however wild or extraordinary, which could affect a truth about which agreement must be both universal and invincible.

So far the Cartesian method is both interesting and inspiring. It has at least led us to consider the unique character of one certitude. Possibly we may find later that a similar method, applied with a little more restraint to definite propositions, may yield quite a number of certainties, each as free from legitimate doubt as the existence of our conscious states. For this reason, apart from its own vividness and intrinsic value, we have delayed over the Cartesian discovery.

The rest of the French philosopher's theory of knowledge is speedily sketched, and unfortunately almost as speedily dismissed. It will be remembered that Descartes had sought one certitude which should be a fountain-head of true and

valid knowledge, and at first sight it must be allowed that "je pense: j'existe" looks a peculiarly unpromising source. To meet a very real difficulty Descartes made a wonderful "volte-face". Instead of trying to deduce anything from his "cogito, ergo sum"—the task indeed would have been fruitless—he asks why this one proposition, from which he had rescued from the débris and ruins of certitude, is so immovable, and so invincible. What, in other words, is the formal quality which gives it that particular cogency, rendering it the most indubitable of all statements? It is obvious at once that the philosopher has tampered with his own project—he is turning *one* aspect of *one* certitude into a criterion of truth!—and one begins involuntarily to lose the sustained interest with which one followed the labyrinthine ways of his doubt.

On examination, he finds that the formal quality which makes his "je pense: j'existe" so irrefragable, is to be sought in a certain luminous obviousness, what he called its "clearness and distinctness". If clearness and distinctness could do so much for one proposition, why could not their range of power be extended? Why not erect them jointly into a criterion? The philosopher felt the strength of this temptation, which appeared just at the very breaking-point of his philosophy, and the next step is a lamentable "non sequitur". After the brilliant opening, all the inquiry is to end in smother. Let us record Descartes' "fall" in his own words: "Et ayant remarqué qu'il n'y a rien du tout en ceci, 'je pense donc je suis' qui m'assure que je dis la vérité, sinon que je vois très clairement que pour penser il faut être, *je jugeai que je pouvais prendre pour règle générale que les choses que nous concevons fort clairement et fort distinctement sont toutes vraies, mais qu'il y a seulement quelque difficulté à bien remarquer quelles sont celles que nous concevons distinctement*".¹

The one outstanding feature or formal quality of one cherished certitude is thus by a species of philosophic legerdemain turned into a criterion of truth. True propositions are

¹ Op. cit. 4me Partie.

those which are very clear and very distinct, while to ideas, which enjoy these same qualities, there corresponds an external reality. After a lengthy introduction, the problem of knowledge is ultimately solved in a few crisp sentences.

Criticism of Descartes' Theory.

It is scarcely necessary to comment on the Cartesian criterion which gives an air of unreality to all his philosophy. It seems to betray the mathematician who is bent on solving some problem, to get at reality by some "lamda" dodge, rather than the philosopher who is questioning ultimate facts. True, indeed, most men unconsciously adopt the Cartesian canon of distinctness. They embrace readily what seems particularly clear, and refuse a hearing to what seems obscure and confused. Most of us, for instance, sift the news in our daily papers according to some such criterion. If a writer has the power of describing clearly and vividly the diplomacy of a Balkan State—is such a feat a possibility?—so that things which were obscure and meaningless now look obvious, we find it difficult to withhold our assent: it seems too clear to be untrue.

In fact, the Cartesian criterion may be said to be one of the most widely-spread of all the philosophic heresies. So many of us are convinced of the truth of all that seems conspicuously clear to us, of all our national and personal prejudices, of our intuitions, and of our strangest prepossessions. It is luminously clear to one man that the Middle Ages was a period of unrelieved gloom and stagnation, that light only dawned at the Renaissance. It is equally clear to another that the Middle Ages was a period of extraordinary progress, that the Renaissance showed little but restlessness and effervescence. One is vigorously convinced of the truth and adequacy of the principles of the liberal party. To another it is luminously clear that these principles pave the way for National and Imperial disaster. To one it is unflinching "clear and distinct"—that terrible Cartesian duet!—that the whole of the

national means of exchange and production should be placed under the control of the State. To another it is obvious to a degree that this extension of State-control can only lead to apathy and retrogression. Need we pursue the critique?

No! all our prejudices, all our least defensible assumptions give rise to a multitude of judgments and notions, which are all too disastrously clear and distinct. For a similar reason we are all convinced of the reasonableness of our likes and dislikes, while to pass from personal to graver, broader issues, philosophers love their systems, not infrequently on account of the clearness—to them!—of the general scheme. All is Energy, all is Force, all is Change, all is God, all is Cosmic Imagination—these are some of the products of “clear and distinct” notions. No! clearness and distinctness, though they have a way of belonging to a certain number of true statements, are far from being criteria of truth. Indeed, so far from being criteria, they are often signals of danger to the wary. *If we are wise, we begin to jot down all facts that tell against any very clear notion; otherwise we may be dazzled by its clearness and forget the search for truth.*

We may delay for a moment to consider one of Descartes' own applications of his canon, more especially as it has epistemological bearings of some importance.

In my mind, he said, I find a clear idea of perfection. Now unmixed perfection is something which we have never found on land or sea—something which springs neither from myself nor from anything else in a world of many blemishes. The idea exists of something “more perfect,” “de plus parfait que je n'étais”: it is clear and distinct: there must be a corresponding reality, which gives rise to the thought in me. The Perfect exists, in other words, as an ontological reality, and is called God. In a few lines Descartes passes by the immediate application of his criterion to an idea, to the affirmation of God's existence.

The above argument is, of course, only a Cartesian restatement of the old Anselmian or ontological argument which,

though it has captivated not a few distinguished philosophers, and though it possesses a certain power of haunting the mind, must reluctantly be judged untenable. We need only analyse for a passing moment our concept of perfection, and think about its origin, in order to detect the flaw. Our thought of perfection—or of perfect being—has within it a certain positive element, derived from our observation of the positive but “mixed” perfections which we think we have detected in men and things. Abstracting what is good, and leaving aside all that is imperfect, we arrive by a kind of intellectual “Pride’s Purge,” at a positive though limited conception of perfect being.

To this concept of ours, thus purified, we may proceed, by a negative process, to deny all limitation, and consider the goodness raised to the fullest and highest degree, to a state of absolute perfection. Thus by a double process of negation and analogy, of purification and transcendence, which we apply to the first positive nucleus of ordinary “perfections” marked by many blemishes, we obtain, at last, a very vague idea of an ideal perfection, or of a Perfect Being. That idea, though vague and incomplete, may be extremely valuable. Only it must be obvious that a proper analysis of this great thought of Perfection will, so far from giving us a necessary guarantee of God’s existence, only take us back to the ordinary world of “mixed” perfections and the mental processes of negation, analogy and transcendence. In other words, our analysis cannot lead us straight to God, but only back along the path of mental windings, to the positive “perfections” which we think we grasp and isolate from the world around us.

We might indeed delay over this criticism, and expand it further. What we have said, however, will serve to show that one typical use of Descartes’ criterion led him to offer a proof of God’s existence, which is really worthless. But this, though interesting, is not the point of importance. The proof once seen, the French mathematician proceeded to use his discovery in order to give one final touch to his theory of knowledge. It rounds it off, unfortunately, at the expense of making it a

circle—just one of those vicious circles that, one might think, an eminent mathematician would avoid.

He had said almost in so many words that clearness and distinctness were the criteria of truth, and had felt, perhaps—who shall say?—that he had given no sufficient reason for so broad and comprehensive a statement. To generalize from his “*cogito, ergo sum*” might perhaps seem to him, in moments of heart-searching and doubt, to be arbitrary and quite unworthy of the sustained effort of his methodic doubt. Whether or no, after attempting to establish the existence of God he reverts to his original theme and asks, with delightful ingenuousness, why clearness should be a criterion of truth. Why indeed? The answer is now ready. God, the ideal and infinite perfection, exists, and will not allow us to be deceived where our certitudes are so natural and spontaneous. Here are the words: “*Ce règle, à savoir, que les choses que nous concevons très clairement et très distinctement sont toutes vraies, n'est assuré qu'à cause que Dieu est ou existe . . . d'où il suit que nos idées ou notions, étant des choses réelles et qui viennent de Dieu, en tout ce en quoi elles sont claires et distinctes, ne peuvent être en cela que vraies*”.

There must be some way of discovering truth, and the suggested criterion provides a reliable way. One is left musing, as one struggles against this neat though circular train of ideas. By the criterion of clearness and distinctness, we are induced to prove the existence of God. By the existence and nature of God, we are led to ratify and explain the criterion. We need add no more. Further comment, indeed, would be a weakness.

The end of the Cartesian inquiry, while outwardly preserving all the beauty and neatness of a geometrical sequence of thought, was in reality confusion, but the method may prove inspiring to others. Descartes was the first of the moderns to open up in a real and challenging fashion the whole problem of human certainty. Among the ancient and mediæval philosophers there was no branch of philosophy known as critics or epistemology. The question was only treated in their psycho-

logy or logic. In this respect the modern world presents a complete change of view. For the last century and more, there have appeared relatively few philosophic works that have not hinged upon these all-important if somewhat obsessing problems. The difference—the cry for an epistemology—is largely due to the influence of Descartes and Kant. Of Kant we shall treat later. For the moment it will suffice to say that Descartes raised a problem which must be answered, and also suggested a promising mode of attack in his methodic doubt. *The essence of that method, we take it, lies in a state of mind, which, in its philosophic search queries the certainty of every fundamental judgment, until it finally arrives at some certitude in presence of which further questioning is useless and doubt impossible.*

Our Own Plan and Critical Method.

We may now pass to sketch our own plan which involves, at the outset, an application of this Cartesian method. But before we go further we must “turn out” our minds, and see exactly of what elements our knowledge purports to be composed. Into what component parts, in other words, can our knowledge—real or imaginary—be analysed? Let us then endeavour to make a complete inventory.

As we first glance at the corpus of our knowledge, we feel inclined to give up the task as hopeless. That knowledge seems to contain a hundred different features, here and there an isolated fragment, sometimes a few supposed dates of supposed events, an almost chaotic multitude of “facts,” and then in addition a profusion of theories, “views,” demonstrations, and beliefs. Yet the whole may undoubtedly be simplified. Our knowledge purports at least to be made up of simple data—facts—and judgments or propositions of various kinds. Those judgments, as we shall see, may be held on no evidence whatever—“random judgments”; they may be held as the result of some long “proof” or some extensive collection of facts, at the conclusion, that is, of some deductive or inductive

process : or they may have some power of appealing to us either by their own intrinsic reasonableness, or owing to the credibility of some external authority. In any case, whether they be immediate or mediate beliefs, or the conclusions of proofs, they are nevertheless judgments. Here, then, is the first great simplification of our problem. *Our knowledge is, or purports to be, composed of certain "facts" and a group of judgments or propositions, to which we perhaps commit ourselves with unequal degrees of reluctance.* Let us say a word about each group in turn.

The Facts of Our Supposed Knowledge.

I. To begin with there are a certain number of supposed facts, or in any case data, given to us immediately and directly by sensation. There are, that is to say, sights, sounds, feelings of touch, tastes, smells, not to speak of a multitude of "interior" sensations, respiratory, muscular, or circulatory, such as the "tingling" of blood through the veins, which—whatever be their value—unquestionably assert themselves. Though conceivably they may be of no value, it must yet be conceded that they are given—data, therefore—and that they are immediate. In addition there are other immediate data in the form of general ideas or concepts, such as man, being, humanity, empire, goodness, the rôle of which in consciousness, as we shall see later, is more extensive than we sometimes dream. Naturally, also, we have feelings, let us say, of exaltation, tension, or depression, but these, while being "data" just as much as our sensations, do not purport to give us knowledge : they are not "cognitive" but "affective" processes. Thus between them, sensations and concepts exhaust the store of elemental data of which our knowledge is composed.

The Judgments of Our Supposed Knowledge.

II. We need not elaborate the obvious. Naturally we do not stop short at these isolated facts, events, or phenomena : we manipulate them in judgments. For the moment let us

repeat that we do not and cannot presuppose the validity of these manipulations. We are only endeavouring to discover what we actually attempt in consciousness. Thus in our judgments we link together fact and idea or two ideas, which seem compatible, or else we suggest their necessary severance by some kind of a negative proposition. Doubtless there are many forms of actual and hypothetical assertion, just as there are a multitude of ways of asking questions without ever asserting or denying anything. But questions like positive or negative statements imply some linking of fact with idea or of two or more ideas. Instances abound in all the books on logic which analyse and classify the typical manipulations of our elementary data. Again, just as we are not content with amassing simple data in the form of sensation or concepts, so too we want more than simple judgments, which give the first obvious linkage of compatible factors. We are naturally bent upon making wider syntheses, upon integrating the various parts of our knowledge so that they may be held together with more ease and security. But let it be noted at once, that the widest and most inclusive synthesis, can always be expressed in a judgment. Judgments, then, are obviously of different "value," involving different processes, though the form of expression, the crisp categorical " x is y " may be the same in so many different cases. In order to simplify again, then, let us divide all judgments into those which are

(a) *Immediate*—not depending upon proof.

(b) *Mediate*—those which are really conclusions of some argument or which depend upon certain intervening or mediate considerations.

We may, as it is easier to work backwards, confine our attention in the first place to the *mediate* judgments.

What goes, then, to the making of a mediate judgment, whether it be the statement of a theory or the conclusion of a proof? Do not, of course, let us presuppose for an instant that the processes are necessarily valid. We only wish to discover what the processes and factors are actually supposed

to be. They are formed, then, these mediate judgments, either explicitly or implicitly by the stringing together or manipulation of other propositions. There is some kind of process or proof, and behind the scaffolding there always lie a large number of immediate judgments. Thus a mediate judgment, concerning the atomic structure of matter, may perhaps be analysed into a group of judgments involving just simple "facts," an hypothesis, like that of Avagadro, and a chain of reasoning. In general, these mediate judgments will be found to rest upon deductive or inductive "proofs," and to involve simpler immediate judgments, like statements of "fact," and simpler immediate judgments in the form of principles, like those of causality, contradiction, and the rest. There may be postulates at work, as in the typical geometrical demonstrations, or there may be hypotheses, as in nearly every theory, whether it deals with atoms, stars, or the evolution of species; but even postulates and hypotheses are only judgments of a particular type. Hence it is true to say that all our mediate judgments ultimately rest upon the immediate, or, at all events, that the "mediate" judgments rest upon a structure of more "simple" and more "obvious" elements, which in turn look to some immediate judgments for their "justification".

What, then, is to be done in presence of a mediate judgment? How is it to be handled before we allow it to pass unchallenged?

Many answers suggest themselves, but as they may all be reduced to aspects of one, we may be brief. We ought, of course, to be frankly and severely critical, ready to doubt the validity of the whole mediate process, step by step, until we are convinced that further doubt is unreasonable or impossible. Should the supposed "proof" stand the test—it is wonderful how many of them begin to drift and fleet like rain-clouds after a storm!—we may regard the final conclusion or statement as something just as certain or uncertain as the immediate judgments on which it rests. If the whole sequence of facts and ideas turns out to be faulty or insecure in one of the

steps, we must either dismiss the whole argument in its entirety, or reduce it from a "proof" to the less imposing status of a "suasio" or persuasive argument. In any case it will be seen that the problem of mediate judgments is bound up inextricably with the validity and certainty of given immediate judgments. Here, indeed, in the consideration of these immediate judgments, the whole problem of knowledge is raised in all its complexity and acuteness.

The steps of our analysis lead us to see that almost everything depends upon these simple, straightforward, immediate judgments. Knowledge, it will be remembered, is made up of simple data and judgments. All knowledge, as is obvious, is conveyed by judgments. The judgments themselves are either mediate or immediate. If "mediate," they depend for the whole of their validity on the immediate. We have reached the crisis then at last.

We turn, therefore, to consider these *immediate* judgments. They are statements either of principle—a principle is only a judgment of a specially important and far-reaching type—or of supposed fact. An instance of a principle may be found at once in the statement "a thing cannot both be and not be," or of a supposed fact in the old "axiom," "things that are equal to the same thing are equal to one another". These and a number of others stand, or appear to stand, without need of evidence or proof. *They can rely on nothing but themselves, and must by their nature remain for ever indemonstrable.*

The word "indemonstrable" is surely enough to set us musing. "The whole of knowledge," we say to ourselves, "is then, after all, to rest on a number of indemonstrable statements. The 'mediate' propositions will rest upon those that are more simple and more obvious, and those in turn upon the unproven and indemonstrable foundations. Is the theory of knowledge, after all, to be founded upon assumptions, and are we to begin by postulating what we can never prove?" Let the reader dismiss his fears. We shall make no assumption of any kind, whatever, and shall ask no indul-

gence in the shape of any postulate, however reasonable. Let us therefore proceed to fulfil our promise.

These immediate judgments carry conviction to our minds. They induce the calm state that excludes all but so-called fictitious doubt, on account of their spontaneous appeal to our intelligence. Briefly, concerning these immediate propositions we find on introspection not a few certitudes or states of mind that rest calm and undisturbed in their affirmation. No philosopher, moreover, has ever queried the existence of these typical states or psychological events. The sceptics, of course, admit their existence, before passing to question their validity: they exist, but there is no hope of justifying them, of finding a criterion. The dogmatists would rather die than doubt their existence: they are taken at their face-value, and given a philosophic consecration. Now it is precisely these certitudes, which, defensible or not, are admitted by all to exist, that form the real starting-point of our inquiry. What are we to do in presence of these indemonstrable, certain judgments?

In order to think concretely—philosophy, after all, is not a game of “hide and seek” in a vacuum—let us take three definite instances. It so happens that it is easy, and expedient for our purpose—that of making a thorough inquiry—to single out the three supposed “first principles” or “laws of thought,” the principles of identity, contradiction, and excluded middle. The statements of these principles run as follows: “a thing is what it is,” “a thing cannot both be and not be,” “a thing must either be or not be”. Their appeal is immediate and urgent: they are indemonstrable. Now, if they really need proof, then a theory of knowledge is strictly impossible. Further, if they are not so certain as to exclude and silence all doubt, if they are not indubitable, that is, though, indemonstrable, then equally well our efforts in this discipline will be doomed to failure. Can they be doubted? *Before we can answer, we must make a real and pertinacious effort to cast suspicion on these principles.* Obviously, it is only fair to

endeavour to doubt the truth of these statements, which play so strange and so incessant a part in the structure of all our supposed knowledge. We shall, then, in our next chapter make a careful, detailed effort to doubt these so-called "principles of being," or "laws of thought".

Let us, however, realize fully how much hangs in the balance. If we succeed for one moment in casting a legitimate doubt on their validity—we are obviously not writing the libretto of an extravaganza—then the game is "up," and no philosophy can be of more value than the inconsequent dream of a sleeper. We are about to apply the Cartesian method of doubt to these single indemonstrable propositions.

Those who start out on the inquiry for the first time, without being able to forecast the result, ought, if they realize anything of its significance, to have something of the delightful and dangerous feeling of one who walks along the very narrow ledge of a precipice. Wasn't it Browning who said, "our interest is on the giddy edge of things"? If the ledge gives way, the climber can only hope to be whirled through space, into the sunless depths of the precipice. If, on the other hand, the ledge holds, and the passage is effected, he will have lived through an experience which the magnitude of the risk will not allow him to forget. If the epistemologist is bound to live through some weary moments of despair, when the stillness and gloom grow almost oppressive, he can at least appeal to certain incidents on his journey, which are both in spiring and thrilling.

A word of summary may be acceptable, before we set out on the Cartesian way of doubt. We have found that all knowledge is composed of simple data—sensations and concepts—and judgments which may be either mediate or immediate. Our inquiry into the validity of mediate judgments, with all their ornate trappings of hypotheses, postulates, principles, reasonings, facts, may be entirely suspended for the moment. They depend wholly upon the adequacy of the simple data, and the validity of the immediate judgments. It might seem

advisable, therefore, to begin by discussing and criticizing the data. That course, however, is quite impossible, until we have established and proven the existence of an external, real world, to which these data purport, at least, to have reference. Now, in order to prove the existence of the extra-mental, real world, we must use certain principles, which, fortunately or otherwise, are immediate. *We are thus forced, by the nature of our inquiry, to turn aside for the moment from the simple data, and to address ourselves to the critique and doubt of certain immediate judgments or principles.* To the data we shall return much later, when they can be adequately "set," criticized, and explained. Our task here and now is urgent and important enough. We have isolated three or four immediate judgments, which we shall now make a real and vigorous effort to doubt. If the doubt persists, we must face disaster. That is at least the beginning of the critical method.

CHAPTER V.

RATIONAL DOUBT AND ITS RESULTS.

So far we have discovered that all our knowledge, good or bad, is bound up with the validity of a given number of immediate judgments, which while being necessarily indemonstrable are nevertheless certain. But what is the value of such spontaneous certainty? The question is necessary and urgent: indeed, it carries us right to the very heart of our theme. To these natural spontaneous certitudes of ours, or rather to three of the most important of them, we now propose to turn our thoughts in an effort of doubt. Unchallenged they cannot pass: they are by their nature indemonstrable, and therefore rest on no suppositions or proof: there is only one conceivable method of challenge—*the trial by doubt*. If the judgments cannot withstand the ordeal, then the cause of certitude is crippled and broken, and a theory of knowledge no more at best than a luminous defence of certain assumptions.

The Three First Principles.

We begin then with the three so-called first principles, which are discussed as the principles of being in metaphysic, and as the laws of thought in logic—the principles, that is, of Identity, Contradiction, and Excluded Middle. And first—without in the least prejudicing the issue, or suggesting anything that may break the power of our coming doubt—we may say a word as to the supposed derivation of these principles, and of their “transcendental” nature. We only state the case, which must be defended by the metaphysician.

Metaphysic, as is well known, is the ultimate science of

being, with interests as wide-flung as the whole universe, embracing all reality of whatsoever kind within its ample range. After having fixed and discussed the subject-matter of his science, to wit, being-in-general or being, in so far as it is applicable to all things that are, without trace of limitation or particularity, the metaphysician passes to discover what exactly are the *properties* common to each and every real being. He does not deal with individual properties, like invisible rays, colour, brightness, dimension, weight, which mark particular "things" or which characterize any special genus or species. The collection of individual or specific properties is the work of the natural scientist: the metaphysician, not unmindful, we trust, of all the scientific discoveries, is on the track of qualities that are not particular, but universal. These all-embracing universal properties of his search, seeing that they are applicable to all being without exception, and thus transcend every particular genus or species, he styles *transcendentals*—a term which like many another in philosophy has, in the course of its use, undergone a variety of meanings. Here, as used by a careful metaphysician, a *transcendental* is only a quality which mounts above and beyond ("trans-scandere") all particularity. "Being" is thus a transcendental term, while "time," or for that matter "beauty," is not sufficiently free from particularity, to share the high company of the soaring transcendentals. "Being" is obviously applicable to all reality, while there is at least one being, God—we speak, of course, of the God whose existence is proven by philosophy—of Whom "time" cannot be predicated, Who is eternal. So, too, it will be even more obvious that many individual "things" are beautiful, while a large number are repulsive or ugly.

Now the transcendental properties, which belong to "everybody" and "everything," are found to be three in number. They are unity, which means nothing more than the absence of division, "goodness," which only means that things have a fixed nature, and definite purpose, and "truth," which implies

that things, on being related to a mind, can be comprehended. When to these properties we have added the three terms "being" ("thing"), "essence" ("nature"), and "something"—here used in the sense of something distinct from all else ("aliquid—aliud quid")—we have exhausted our stock-in-trade of transcendentals. There exist no other terms that can be applied fearlessly throughout the whole vast compass of reality. So much for the transcendentals.

Now these six terms may be linked together or attributed to one another, with the result that we find ourselves in possession of a number of judgments of a unique, far-reaching, indeed all-inclusive type. These judgments which show no vestige of particularity share in the transcendental nature of their constitutive terms, and are therefore styled first principles. Thus link "being" with "nature," and we say at once a being is its nature, or more easily in English, "a thing is what it is," and find ourselves face to face with the first Principle of Identity. And so for the other Principles of Contradiction and of Excluded Middle: they are constructed with terms that are strictly transcendental.

It is not for us, here and now at all events, to discuss and defend this metaphysical view of things. Suffice it to say that in the older philosophies—at least the older philosophies at their best—these principles were formed in this way and attributed fearlessly to all reality.

On turning to discuss Logic these same philosophers found that we habitually *thought* of things in terms of these self-same principles. The principles governing reality, and the laws governing our thought about reality, thus turned out to be one and the same. What wonder, then, that the theory of knowledge was only a thing of brief indications for those philosophers who were convinced that the mind thinks of things as they are, or to put it more technically that the laws of thought and principles of being are identical! But whatever their genesis or nature, it is undeniable that these principles form, as it were, the iron-girders of all our thought-structure. In-

deed, they are so deep-set in the general construction that we can only marvel at the penetration of those philosophers who first revealed their true nature. It needed the unclouded wisdom, the vision of the Greeks. However, these are the principles. Transcendental or not, the theses must be defended in metaphysic. Let us now make a frank and real effort to doubt them.

The Principle of Identity on Trial.

The first is the Principle of Identity, that a thing is its own essence, or as we express it more deftly, "a thing is what it is". At first sight it seems obvious almost to the extent of being a tautology, something so far beyond the range of ordinary doubt as to be exasperating to the destructive critic. Clearly no ordinary hypothesis will be of the slightest avail in the assault. Let us therefore take a great leap, and make a very daring suggestion. Let us suppose that all our knowledge is spurious; that we have never once thought of "things" as "they are"; that our fund of imagery and concepts is illusory; that all our judgments are strangely inconsequent, perverted, valueless. What then?

The suggestion is extraordinary and radical enough, beyond question, but does it cast the least doubt on the Principle of Identity? The answer rings out clearly. Not even for an instant does it cast the least suspicion on this first principle. We only conclude that we may never know things as they really are, or that we are forced to "know" them in some perverse and incoherent way, devoid of all relation to fact. Thus we might never *know* what things *are*, but that does not help us to doubt—even in a passing moment of rational unsteadiness—that they *are* what they *are*. Just as you cannot doubt that you are doubting, while you are doubting; so also you cannot doubt that if things are, they are what they are. Even the total ruin of our knowledge of the nature of things leaves this strange judgment of identity supremely unaffected. Granted for the moment that things distinctly *are* not what

we *think* them to be, they *are* at least what they are. It begins to look as if there were at least one other judgment, as invincible and as indubitable, as the existence of our conscious states.

In order to enforce this truth, let us extend the first suggestion to cover all its implications.

Let us suppose that all our cognitive processes are badly constructed, so that our minds, completely and utterly distorted by some inherent vice, are only capable of yielding thoughts that are chimerical and judgments that are erroneous. Even by the aid of such an hypothesis, which might justly be styled extreme and gratuitous, we cannot doubt this Principle of Identity. If every other judgment is compromised to a hopeless degree, if every other linkage of fact and idea or of two ideas is no better than the incoherent murmurings of deluded people, yet this principle, a strange judgment of a unique kind, dealing not with our conceptual knowledge but with the ontological reality of things, is saved from the wreckage. These transcendental principles, it would seem, transcend not only every genus and species, but also every rational or irrational human doubt.

So far our suggestions have been broad, involving the ruin of all knowledge. Now lest perhaps we should seem to be complicating, and thus evading the direct issue, to wit, the certainty of one particular judgment of identity, let us make a particular supposition, aimed straight at the validity of this one principle.

“Other judgments may be invalid,” the inveterate sceptic may suggest. “Why should not the Principle of Identity share the same fate? We are often ‘possessed’ by supposed ‘truths,’ readily yielding assent to propositions which turn out later to be unfounded or even worthless. What guarantee have we that this almost truculent Principle of Identity will not suffer the same degradation with the lapse of years or perhaps even months?” “Besides it is quite easy,” he may say, “to doubt the principle. We have only to suppose that

we are 'abnormal' on this particular question of identity, in order to reduce our principle to the ordinary level of erroneous, and therefore dubitable judgments." We can almost see the sceptic reclining with ill-concealed satisfaction, after having delivered his soul of a doubt in the typical form of a question. We offer no defence for the moment. We are prepared to go to any legitimate lengths along the way of rational doubt. Let us therefore scrutinize the supposition, and turn to doubt the Principle of Identity, if we can.

The hypothesis may be summarized in two propositions: "that this particular judgment is invalid," and "that this judgment is worthless, as it only reflects our pathological condition of mind on the question of identity". And first, "that this particular judgment is invalid".

None can deny that the difficulty is sufficiently particularized at last. "Invalid" is a word that sets us thinking. It means, we suppose, that terms have been linked in this proposition, which ought, strictly speaking, to have been dissociated. Then it supposes at least that a correct linkage, in which two compatible factors were associated, would be valid. Now this judgment of identity may be expressed in the form "*A* is *A*". Yet "*A*" and "*A*" are not compatible? "*A*" and "*A*" ought to be dissociated, because . . .? But why stumble along? An invalid proposition is always of the form "*A* is *B*," that America is naturally bellicose, that war is unjust, and never of the form "*A* is *A*," "that America is America," or "that war is war". No! clearly, if validity means anything, it cannot be invalid to identify two things, *A* and *A*, which are identical!

We were prepared to doubt our principle, but the supposition turns out to be too extravagant. It will not bear scrutiny because it is irrational, and, finally, meaningless. So much for the first half of the sceptic's hypothesis. Now let us turn to the second part.

It may be that we are "abnormal" on the question of identity, and that our deliverances on the subject should be accepted with fitting—shall we say?—reserve. We shall see.

The key to the matter is found in the term "abnormal". Of course we may go wildly wrong in identifying things that are different, just as people sometimes exhibit a strange caprice in tracing facial resemblances. Thus if we ever identify, partly or wholly, two separate, different things, we may indeed be the victims of some psychological abnormality. But if we identify a thing with *itself*, A with A, what room is there for any caprice? How, where, and when, can we go wrong? No! it would appear that "A is A" is so sane and sober a judgment, as to be the norm of validity, to which we return in moments of difficulty and mental anxiety. If, therefore, the "norm" be "abnormal," the "normal" itself, how strange shall it be! In other words, this difficulty cannot be taken seriously: it renders both the terms, "normal" and "abnormal," meaningless—just a meaningless collection of not very graceful sounds. As the pivoting term "abnormal" turns out to be meaningless, the difficulty vanishes. But let the reader test the matter for himself. It is easy to collect "paper" difficulties, to suggest destructive arguments: the mind remains firmly, quietly convinced of its guiding principle of identity from beginning to end.

We conclude, therefore, that the certainty of this principle is just as irrefragable as the existence of conscious states. No supposition that I can make, no power that I can invoke, can possibly detract from either of these propositions, which we strictly describe as indubitable. The result is so far satisfactory. In addition it begins to look as if fearlessness in criticism and doubt were going to lead, not to the much over-estimated suspense of judgment of the sceptics, but rather to a series of vigorous and uncompromising assertions. This thought may help us in the critical work that lies before us. The way is long, and, to tell the truth, we need a little encouragement.

The Principle of Contradiction on Trial.

With a distinct feeling that rational doubt is a hopeful method which may yet lead us far in our epistemological

inquiry, we turn to deal with the second of the three first principles. Called the Principle of Contradiction, it may be stated thus: "that a thing cannot both be and not be". Like the companion Principle of Identity, it does not pretend to solve the problem of reality, the existence of "selves" or of a real extra-mental world. So far the only existences, of which we can take cognizance in this essay, are the conscious states, feelings, thoughts, beliefs, sensations, emotions, and the rest, the fleeting existence of which, as Descartes found, lies beyond the pale of human doubt. One of these conscious states is the judgment of identity, of which not only the existence but also the validity is, as we have been forced to concede, indubitable: another is the principle of contradiction which assumes a legislative authority among other judgments. Its existence, as a conscious event, is beyond question. Let us now consider its validity.

The statement that "a thing cannot both be and not be," while possessing at first sight the fulness of self-evidence, does not appear quite so obvious as the Principle of Identity. Very few people ever refer to the proposition, "A is A," either implicitly or explicitly, while most of us find ourselves using the Principle of Contradiction from time to time in argument. Sometimes it is discharged as a last shot, often as a philosophic maxim covering no little heat and annoyance. If our argument is not accepted, we tend to say, "either it is—or it is not: if it is—then—: if not—obviously!" In some ways, as we shall see, this principle is the strangest and by far the most important of all the laws of thought. It is scarcely necessary to try and find any hypothesis that may shake its foundations. Perhaps it shares the transcendental nature of the identity judgment—who shall say at this juncture?—but, in any case, in presence of the same convulsive doubts, it offers the same aspect of indefeasibility. Once again we would invite the reader to attempt a real bombardment.

If, for instance, we make the same suggestion as in the last case, involving the total bankruptcy of all our ordinary judg-

ments, the principle is obviously saved. However crippled my powers may be, and however crooked my judgments, it remains indubitable that a thing cannot both be and not be, that it cannot both be green and not-green, triangular and not-triangular, virtuous and not-virtuous. It may possibly be true that I cannot go any further in the analysis, that I may never, by any chance, know whether a "thing" *is* green or not-green, virtuous or not-virtuous. In any case it cannot be *both* of the two contradictories. This knowledge may be insignificant—it is less insignificant than one may suppose, and has consequences of momentous importance—but, insignificant or not, the statement of the principle remains serenely undisturbed by even the most radical doubt. The principle is indefectible, and so far beyond the range of doubt, that it is not given to the human mind to withhold its assent. It is not necessary to rehearse the former doubts, both general and particular. The work has been done once for the companion Principle of Identity and may thus be standardized.

If doubt, however, is of no avail, let us, just to vary the motion, attempt a more vigorous procedure. We shall explicitly deny the principle, and then see what happens. Without giving any reason, therefore, we unblushingly state that the judgment, "a thing cannot both be and not-be," is untrue. Moreover, the method is refreshing: the statements are crisp and categorical.

Now, if this denial has any significance at all, if, that is, it is any more than a curious jumble of incoherent sounds, it states that the principle is untrue, and secondly implies that it cannot possibly be true. The denial, in other words, involves the firm belief that a statement cannot both be, and not be, true. The belief may be very rational and defensible, but what we observe at once is that the belief—without which the denial would be meaningless—is nothing more than a restatement of the very principle, which is being denied, in one of its manifold applications. "A thing cannot both be and not-be," is one statement: "a thing cannot both be true and not be

true," is another particularized form of the same principle. To deny the first, you need to affirm the second, and so to reaffirm what you are denying. None could be forced to come round "full circle" in shorter time or with greater rapidity. Indeed the very effort to deny the principle has a bewildering, confusing effect upon our thought: suddenly and unexpectedly all the engines seem to be working backwards, and all the ancient landmarks disappear in a blinding fog.

But the facts, it must be admitted, are even passing strange. If we affirm the Principle of Contradiction, we cling to it. If we deny it, we affirm it by positive and immediate implication. Thus, whatever we do, whether we still affirm it or deny it, we find ourselves asserting it even against our will. It is not unfitting in the circumstances that it should be styled a law of thought. However, law or no law, it is both indubitable and undeniable in the literal and exact sense of both much-abused epithets.

But there is more to be said of this strange principle of contradiction. All our knowledge, whatever its value may be, is made up of an endless series of positive and negative statements. Even in hypothetical and disjunctive propositions, or for that matter in questions, there is always a nucleus of something positive or negative. A glance, therefore, at these typical affirmations and denials may be useful.

In every positive statement we make, whether it be that "diamonds are translucent," or that "some wild violets have no scent," we make an assertion, and mean definitely to exclude the truth of contradictory propositions. Thus unless we meant implicitly to deny the truth of the statement that "all wild violets are scented," our modest particular proposition above would be meaningless. So, too, in the same way, on making negative statements, such as "no metals are compounds," or "some flowers are not beautiful," we mean, however implicitly, to exclude their contradictories. We may be thankful that these denials, involved in affirmations and negations, are implicit; otherwise they would certainly clog our

thoughts and impede all swiftness of reasoning. Though implicit, they are none the less real.

Thus in all our so-called definite knowledge, and in each single, constitutive judgment, whether positive or negative, universal or particular, we assert implicitly, but untiringly, the Principle of Contradiction, "that a thing cannot both be and not be," true and not-true.

Apart altogether, therefore, from certain strange inherent qualities of its own, this principle is unique in the way in which it recurs, not as a conscious or sub-conscious process, but in the *logical* underground of our thought. It lies somehow logically embedded in every single judgment, whether of assertion or denial, and may be justly called a ubiquitous element of knowledge. If it could once be doubted or denied, we should be left lispng and gasping, murmuring, not statements of any consequence or any meaning, but incoherent noises full, no doubt, of "sound and fury". Fortunately for us the most pertinacious effort and the utmost good-will cannot help us to doubt its validity, and even a categorical denial is of no avail in the assault.

Moreover, this principle is asserted, not only at every turn of our thought, but also in every single "experience" that we think we have. We do not wish to introduce "experience" in any clandestine way, as an ultimate arbiter or judge. So far from being a judge, "experience" has itself yet to be put on trial. Imaginary or real, however, this experience of ours brings in a unanimous verdict in favour of the Principle of Contradiction. Trees never seem green and not-green; media never seem both translucent and opaque; sounds never seem both dulcet and shrill. The principle is indeed analytic, involving nothing more than a vision of the limits of compatibility of "thing" and "being"; but were it not analytic, it might be established as the result of this vast human induction—provided induction is a valid process!—of almost universal range. Affirmed in all our significant judgments, it is reaffirmed with equal insistence in all our sensible experience.

It is satisfactory to know that it cannot conceivably be doubted or denied. We have made the attempt to harbour the doubt and now record our complete failure.

The Principle of Excluded Middle on Trial.

As we have considered the first two principles in some little detail, we need not delay long over the third, that of Excluded Middle, which is sometimes expressed in this form: "that a thing must either be or not be". The older form of the same principle ran as follows: "between contradictories there can be no intermediary"—no "middle," in other words: whence the title "Principle of Excluded Middle". For the same reasons as before, the proposition—once again a "transcendental"—evades the most persistent and far-reaching doubt. Like the other principles, with which it is intimately associated, it deals analytically with what things—if there be things—*are*, and not with what we "know" them or think them to be. It may be that we are condemned to complete ignorance as to whether things are or are not; that we may never know which of the contradictories is true. The fact remains that they *must* either be or not be, and that one of the contradictories must be true, the other false. The old revolutionary doubts may be applied as before, but the principle emerges unscathed, indeed untouched. It suffers no exception and brooks no doubt. Like the companion Principle of Contradiction, it is implied in almost every experience, and all our judgments. Statements must either be true or not true: things seem either to be or not to be.

Moreover, if we turn for a moment to the logical rather than the metaphysical statement of the theory, we see quite clearly that we cannot even dream for a passing instant of an intermediary between contradictories. We may strive, for instance, by the help of doubt, denial, question or difficulty, to find some intermediary judgment, some third possibility between the two propositions, "all lapis-lazuli comes from Russia," and "some lapis-lazuli does not come from Russia but from

Persia". There is no possible room for compromise nor for the gracious admission of contradictory propositions. The effort to find a compromise or an intermediary can only lead to exasperation, and thence to the explicit assertion of the principle impugned. That principle is transcendental, in the sense that it flushes with "being"—whatever there is of it—and acknowledges no boundary. Like the Principle of Contradiction, it is beyond the range of possible or actual doubt or indubitable—and beyond the reach of denial or undeniable. Naturally our treatment might be lengthened, but as it would necessarily involve many repetitions, we leave the processes of doubt and denial with confidence to the reader.

Our search, pursued in all fearlessness by the aid of rational doubt, has proved fruitful. Without going any further, we have discovered four invincible certitudes, to wit, that conscious states exist—our first existential proposition—and that three of these states, the judgments, that is, or principles of being, or "laws of thought," are valid and unassailable. Thus we have found, without making any assumption, however slight, that we are in presence of conscious states, among which three judgments that exert a restrictive, directive, and legislative authority—who was it said that they "policed" the fields of thought?—are found to justify, beyond cavil, doubt, or question, their high pretensions. It would seem that we have at least the beginning of a very precise and lucid answer to the languid "que sais-je?" of the sceptics.

Our Own Procedure Criticized.

Our rational doubt, therefore, has triumphed even beyond expectation, and like all success, it is bound to meet with hostile and unsympathetic criticism. It seems too good to be true, that we can start an inquiry without prejudicing the issue by some postulate, axiom, or assumption. Around this question, then, criticisms and difficulties converge.

"In your treatment," a critical objector may say, "you rely throughout on the validity and truth, in fact the general relia-

bility of the ordinary reasoning process which you have used. You have not proved the validity of your reasoning. You have therefore made a typical, wholly unwarranted, though furtive assumption. The assumption further *must* be there. State it openly and every one will see that you are, after all, only a dogmatist who, like many another, has failed to realize the extent and number of his assumptions."

We can even hear the sympathetic, indulgent invitation of the dogmatist himself. "We told you, you know," he may say with a smile, "we told you that if you were not going to be a sceptic, you must be a dogmatist. It is only a question of degree between you and ourselves. Come along. You made a gallant effort to sever yourself from our company, but now that we catch you 'flagrante delicto,' making a great assumption, we claim you as an unwilling, perhaps refractory, but real uncompromising dogmatist."

If these contentions were true, our scheme would be wrecked, and we should deserve the label, which we trust may never be affixed, of "mitigated Dogmatism". Our reply must be careful, and we may hope convincing.

The indictment may be summarized briefly. In conducting our search, we have used reason, it is said, without ever being able to prove its general reliability: whence the assumption and the dogmatism.

Now "reason" is one of those elastic terms in philosophy that tend to prevent clear thinking. Never once, for instance, have we made appeal to any inductive or deductive process or to any chain of reasoning. Witness the result, four certitudes and four only, which have all been rescued from the ordeal by doubt. There is no chain of reasoning, no use of "barbara celarent," no presumption of the uniformity of nature or of the truth of the canons of induction, in a quiet persistent use of doubt. So far the charge fails.

Moreover we have not presupposed the truth of our judgments, nor that our power of judging is reliable. All that we have shown as the result of a fairly laborious process is that

four judgments can neither be doubted nor denied. We have given no certificate of good conduct to the judgment process, and on arriving at this point in our inquiry, we had not the least notion as to whether we could ever move a step further. At this moment, therefore, we have assumed, and do assume literally nothing, beyond the fact that we do not and cannot doubt or deny four particular judgments. That is all.

And lastly, we have not presupposed the truth of our thoughts in making this inquiry. We have indeed collected our thoughts, showing clearly that we do actually think this or that, that this or that is the way things seem to happen in consciousness. But we have carefully refrained from taking these thoughts too seriously: we have never for a passing moment assumed their truth. The point of view may be cleared up by an analogy with certain studies in psychology. Psychologists are keenly interested in the mental processes of the insane, and of "border-line" cases. They examine, collect, and sift multitudes of protocols in order to explore and chart the operations of these "unhinged" minds. But a psychologist will not presuppose that the thoughts of the insane are true: they may be true or untrue: the fact which interests him is that they are the thoughts of the insane. They may be strangely pathological. They may be shrewd and piercing. The psychologist attaches no values, but simply says "here they are". So in precisely the same way we have turned out our own thoughts. There they are. Are they valid and true? Frankly we do not know. Their case will be tried later. For the moment nothing would induce us to assume their validity.

Thus, we would maintain, that the charge against us has entirely failed. "Reason" may mean reasoning in proofs or arguments; it may mean judging, or again conceiving ideas. We observe indeed that all these three processes happen in consciousness. When we reason—however wildly—we cannot doubt that we reason, any more than when we doubt, we can doubt that something—a doubt—is transpiring in conscious-

ness. These events take place. As to their truth or value, we suspend judgment. The exigencies of language and of the communication of ideas may sometimes lead us to give an appearance of assumption to this or that paragraph of our work. If the reader checks the total number of our findings at any moment, he will see clearly, however, that the supposed assumption is a "mere appearance" and not a reality. We are still severed from the august company of the dogmatists.

The Principle of Causality.

In the light of what we have ascertained, we now proceed to discuss a principle which is of untold importance in the construction of any philosophy—the Principle of Causality. Philosophy, after all, purports to give an interpretation of phenomena, facts, and things, in terms of their causes. Without the Principle of Causality, therefore, the philosopher could not even begin his search, and without that principle, we could certainly not move one step further in this essay. The whole of knowledge is bound up with the truth of the Principle of Causality. Let us therefore be as exacting as possible in examining its claim to validity.

We may as well observe at once—need we say, without prejudicing the issue?—that we all tacitly accept the causal principle in our ordinary lives and unsophisticated judgments. We think we have a multitude of experiences, which could not be explained without its use. If my brain, from being clear, suddenly becomes cloudy, and I begin to suffer from headache, I naturally wonder whether it is due to the heat of the day, to a coming storm, to nervous excitement, or to dyspepsia. There has been a change—or I think there has been—and I am convinced, rightly or wrongly, that there must be some reason, some cause. Or, again, the papers on my table suddenly fly across the room. Perhaps, without saying a word, or perhaps with a slight ejaculation, I walk across and close the door or window. Or I hear a barking, raucous noise during the night, and determine, it may be, as I turn on my pillow, to shoot the

dog next day. All these are instances of sudden changes which, without philosophizing, I ascribe almost spontaneously to some agent or cause.

Further, if we wish to see how deep-set is the Principle of Causality in the structure of our thought, we need only think how nonplussed we should be if our papers suddenly started flying across the room, without apparent rhyme or reason. Let us suppose there was no open door or window, and no inlet for any gust of wind to send the papers spinning through the air. The experience would be designated "uncanny," and would be communicated with many a protestation of our wakefulness, and our general reliability to certain discreet friends. The friends would probably smile until they saw that they had reached the danger-signal for an explosion. They would say, in soothing tones, that it was probably only a dream; that perhaps we were unwell, or too highly-strung, or "run-down," or "wound-up"; that imagination can sometimes be dangerously active: in short, that it really never happened. A denial after all is no explanation, and we ourselves, stung by the incredulity of men, would probably put the case before the Psychic Research Society.

The facts are luminous. Our friends deny the fact, owing to the absence of any explanatory cause. We cling to the fact and seek an ultra-mundane cause. We both assert our conviction in the Principle of Causality.

Let us suppose for a moment that three nights after this first "uncanny" experience, the phenomenon was repeated or that our papers began to flutter at an inexplicable moment. What then? Well, it all depends upon the person. Some would regard it as a providential ratification of their former experience, though the conviction would probably not be communicated to their incredulous friends. Others—much wiser!—would become genuinely suspicious of their state, and make immediate inquiries about nerve-specialists and health resorts. Once again one individual redoubles his belief in some "spiritual" cause, the other finds the cause of his delusion in

his state of nervous excitement or exhaustion. In some such way, by realizing what the absence of the Principle of Causality or of a suitable application would imply, we may begin to grasp its extensive rôle in so many of our considered judgments. We may now proceed with our analysis.

The Principle of Causality Attempts to Explain Change.

From first to last the Principle of Causality is bound up in our thought with the "fact" of change or becoming. Now the most insistent fact in all our experience, good or bad, valid or spurious, is that the world is the theatre of one vast untiring set of changes, sometimes rhythmic, sometimes sporadic, for ever fluctuant. We need not yet raise the question as to whether these impressions are valid and true, as, for the moment, it makes no difference to our argument. Suffice it to say that the impression of change is so universal, so vivid, so constant, that we often wonder—and the wonder only grows on reflection—where we may look for stability in a world of these incessant transformations.

Things change in dimension : they shrink and grow. Things change in quality, in colour, shape, weight, capacity : they acquire or lose one or more of their properties, like the leaves in autumn which pass through a variety of shades from a vivid green to the dull-brown of leaf-mould. Things, too, are never-endingly undergoing local displacements, as the world in which we live moves untiringly about its axis, and pursues its secular path about the sun. Clouds drift across the sky and suddenly mass themselves together, losing their fleecy white colour for a deeper and more menacing grey. They dissolve in rain, only to be caught up again in mists, which once again form themselves into clouds. They pass and reappear, growing, dissolving, reforming. They are a type and a symbol.

The same is true of the world of living things. They begin to be—one change—grow to maturity and decay—another

change—before death—the supreme change—ends their eventful history. The seasons pass and recur: the trees and flowers are seen to grow and die; the tides of the sea ebb and flow incessantly: “men are born, they suffer and they die”. Rivers change their courses and their estuaries: glaciers move slowly down the side of the mountain to swell the rivers. Where in it all shall we find stability, unless it be the mountains that we designate by the names of “Ever rest” and the like. Yet the mountains themselves, what are they? Only the result of some past upheaval, of some cataclysmic change, wrought ages ago, in the impenetrable gloom of geological time. We seem to rock and sway unsteadily as we contemplate this strange age-long spectacle of restlessness.

As we glance at the world of “things” which we think at least exists, we are inclined to forget that our own consciousness of itself also bears unmistakable witness to this universal law of change. Our moods cannot even be charted. They are less amenable to reason, less interpretable, because more capricious, than the drifts and tides of the ocean. Moods of happiness and contentment pass and give place to moments of sorrow and depression just as moments of concentration and vivid interest are succeeded by lassitude and listlessness. Now for a spell our desires are fixed and ambition, it may be, drives all before it speedily. The months will pass and leave us wondering how the enthralling desire could even have awakened our interest. Delights that are real are apt to fade and die, if they are not actually succeeded by feelings of revulsion. Thus moods of exaltation and depression, feelings of pleasure and dissatisfaction, of tension and relaxation, moments of energy and enervation, experiences of well-directed desire and of passion come and go. All these events pass and consume their fleeting existence, to remind us, if need be, that we are the least stable beings in a world of untiring change.

Here, then, in change, we find the great dominant, reiterated “fact” of experience. Moreover, it is change which gives to every science its subject-matter, for every science, whether it

be chemistry or psychology, attempts to discover and measure the cycle and rhythm of changing phenomena or events. We search for the laws and reasons of recurrence, for the reign of law amidst the bewildering flux of things.

Now the Principle of Causality deals immediately with this central phenomenon of change. It attempts a solution of the problem of "becoming" by showing that nothing can be wholly and fully responsible for its own transformation, that there must ever be some extrinsic factor in the form of some agent, force, or stimulus. Let us formulate the principle then, in the following way, so as to avoid the barren judgments about cause and effect: *a change of any kind whatsoever requires the operation or co-operation of some extrinsic force, agent, or stimulus.* So much for the statement, but what of the necessary proof? With nothing fixed but our four certitudes, with no method but one of doubt and denial, how can we hope to establish any such proposition? True indeed, a turn of the head, a backward glance or a step forward, may easily betray us in ordinary life and show that we accept the principle, without, however, yielding the vestige of a proof.

Worse than all else it seems easy to doubt its validity. Speculatively it seems at first sight hard to be convinced of its truth, and by no means difficult to be suspicious. It looks like the thin end of some metaphysical wedge. Moreover, this causal principle cannot possibly pass or, shall we say, withstand the assault of our doubt as easily as the three former principles, for it is in no sense transcendental. Change, while being the law of all things that we immediately experience, is not necessarily the law of all things that are. It may be that there are disembodied spirits not subject to change, and it is certain, as is proved in another branch of philosophy, that the First Cause is immutable. Change, therefore, is not applicable to all reality, and so cannot share the company of the transcendentals. What, then, we ask, is to be said in defence of a principle without which we cannot move either backwards or forwards?

The Defence of the Principle of Causality.

Now while the Principle of Causality is itself not transcendental, it yet has a curious, deeply interesting one-sided connection with the Principle of Contradiction, and to some extent shares its universality. That connection is our hope—a veritable sheet-anchor. It runs as follows. *If we deny the Principle of Causality, asserting that a thing is wholly self-changed, we deny at one and the same time the Principle of Contradiction*; though the first cannot in any way be deduced from the second. We find the Principle of Causality employed throughout the whole of our experience. We formulate it in relation to change, with which it is always associated. We find *now* that if we deny it, we deny the Principle of Contradiction. Now the Principle of Contradiction—we said that it had momentous consequences!—has proved itself to be strictly and absolutely undeniable. Even an explicit denial is founded, as we saw, upon an implicit affirmation. It is undeniable. Yet if we deny the causal law, we deny the principle of contradiction. The causal law, therefore, shares to the full the indubitable and undeniable nature of the second of the three first principles. On developing our thought, the point will become clearer.

A thing or state on changing, however accidentally or partially, becomes what it was not: it becomes greater or smaller than it was, or different in some one or other of its properties or relations. Something that it had not, it now possesses: something that it was not, it now is. Now let us suppose that this particular acquisition or loss—the change in question—was accomplished of itself without the intervention of any external force or stimulus. In other words, suppose that this particular change contradicts the formal Principle of Causality, and now let us see what happens. The same thing or state or whatever is changing can—by the very fact that it gains or loses some quality—both be and not be something, for before the change the quality was absent and now it is present. It has made itself what it was not, or has, equally of itself, ceased

to be what it was. In other words, it can both be and not be, "sponte sua"—or, what comes to the same, it can contradict the Principle of Contradiction "that a thing cannot both be and not be".

The denial of the causal principle would thus lead by the flight of a few steps to the overthrow of the Principle of Contradiction, which cannot and therefore must not be denied. The flight of those few steps leads therefore to disaster and must be avoided. In a word, we cannot legitimately deny our principle of causality, which deals with the "fact" of change. Like the Principle of Contradiction it is as free from all doubt as the existence of conscious states. Moreover, as that Principle of Contradiction is applicable to all being, to everything that is or was or may ever be, it follows that the causal law shares to a very large extent in its universality. Where there is change in any one of its typical forms, which are legion, there we may apply the Principle of Causality with fearlessness and perfect security.

Objections Against the Principle of Causality.

As causality is a matter of such vast importance—the thin end not only of a metaphysical wedge but of all philosophy—we may be readily pardoned for delaying over it a little longer, and for answering one or two obvious objections.

Let us revert to the "fact" of change again, which is, after all, what we seek to explain. Now before anything can change in a particular way, the metaphysician indicates that it must have the requisite intrinsic adaptation for that special development or what was known to the older philosophers as a potentiality. In passing we quote the metaphysician, as the difficulties with which we are to deal are strictly metaphysical. Let none hoist us on our own petard. We have really vindicated the Principle of Causality already, and only turn now to show the solidarity of our thesis with other branches of philosophy.

Then a thing, before undergoing a definite change, must have a definite adaptability. Let us take instances from our ordin-

any experience. Gold is malleable and wood is not. The gold may be hammered out until it is no thicker than a leaf, while if we apply a similar force to a piece of wood, we obtain nothing but a mass of splinters. Let us admit, for the sake of argument, that the applied force was in each case the same. The difference in result cannot therefore possibly spring from the force. The two things, gold and wood, must differ intrinsically. The gold has a capacity or potentiality which the wood lacks. The force is applied and that capacity is reduced to actuality in the phenomenon of change.

We may take another instance. Let us admit, if only for a moment, that the great distinguishing feature between men and other animals is that men are endowed with intellectual powers of conceiving, judging, reasoning, which other animals do not enjoy. When a man sleeps, we think at least that these operations are, as a rule, completely suspended. What then is the distinguishing *psychological* feature between a sleeping man and a sleeping dog? That there is some difference nearly all would agree, but, as a matter of simple fact, that difference can only be found in the latent intellectual capacity of the man, which the dog lacks. The man is not thinking while he sleeps, but he has a real, though latent and unactualized, capacity for thinking which separates him sharply from the kingdom of lower animals.

Now in the phenomenon of change, by which we are throughout our lives literally besieged, these capacities are reduced to activity or actuality. Where the capacities do not exist nothing can possibly bring about the associated type of change. A university education, useful in training the mind of a man, would be utterly thrown away even on the most "intelligent" of—let us say—Mulvany's elephants. We cannot, even by applying all the physical energies at our disposal, make anything change in a way that lies outside the range of its natural capacities. Briefly, change involves an intrinsic adaptability—is, in fact, nothing more than the passage of that adaptability from latency to reality.

From our analysis, it is obvious that a capacity is something essentially latent. *It cannot, therefore, by any chance, force itself into actuality.* It must remain what it was, something potential and undeveloped, until an extrinsic stimulus or agent co-operates and renders it actual in the phenomenon of change. Wherever we look throughout the range of our experience—to which, of course, we only tolerate an appeal as to an interesting possibility—whether it be to the flight of an arrow, the growth of a daffodil, the development of an idea, or the awakening of desire, we find that the same rigid analysis may be applied with equal justice and apparent truth. The whole is summarized in the governing Principle of Causality—that every change of whatsoever kind requires the co-operation of some force, agent, or stimulus. Change, in fact, is the meeting-point of an intrinsic adaptability and of an extrinsic stimulus.

We may now see, in the light of this further analysis, what the denial of the Principle of Causality implies. If no outside stimulus is required for a definite change—that is the denial of causality—then a thing can be both undeveloped and developed, latent and not-latent, not-actual (potential) and actual, of its own accord. Once again we find ourselves contradicting the Principle of Contradiction, and thus flying in the face of what has been shown to be an indubitable and undeniable certitude.

“But,” it may be urged, “the difficulty, if it be a real difficulty at all, must assert itself against your own theory. Things that are primarily in a state of potentiality pass into the ultimate state of actuality, as you aver, under the influence of some agent or stimulus. They become what they were not. Now a thing cannot both be and not be. Does not your interpretation of change, even after you have invoked the aid of some extrinsic factor, run counter to the Principle of Contradiction? Your reading of the principle, ‘a thing cannot both be and not be,’ would seem to reduce everything to a purely static condition and render change impossible.”

Our answer may be brief. If a thing became what it was not, without rhyme or reason, so that a given property could both be and not be, the principle—and incidentally all clear thought—would be violated. But if things become what they are naturally adapted to become, under the influence of some force or stimulus which is capable of transforming adaptabilities into adaptations, then obviously the principle suffers no detriment. All that we can say in this connection, according to the Principle of Contradiction, is that a thing or state cannot both be potential and non-potential, actual and not-actual—statements which our interpretation endorses, asserts, and even enforces.

Causality and the Factor of Time.

“In any case,” the critic may proceed, “you have throughout the whole discussion ignored the factor of time. The Principle of Contradiction ought to be stated in the form ‘that a thing cannot both be and not be *at one and the same time*’.

This is the simple truth, which ruins your whole nexus between this principle and the causal law. Now at last, in presence of a clear statement, we can deny the causal principle freely and frankly without colliding with the undeniable Principle of Contradiction. If we deny the law of causality, we state that a thing which was x can become x' (change, that is) *at a subsequent moment*, without the intervention of any extrinsic factor. Of course we do not dream for an instant that a ‘thing’ can be x and x' , be and not be, that is, at one and the same time. Only if we indulged in this foolishness that at any one moment a thing could both be and not be something, should we fail to acknowledge the Principle of Contradiction. Your whole case depends for its supposed validity on a misstatement of your own treasured principle. Your defence of the causal ‘law’ is therefore worthless.”

We have stated this difficulty in a challenging fashion, because we are fully aware of its importance in the minds of many serious critics. If “time” must be introduced into the state-

ment of the Principle of Contradiction, we concede at once that our case has failed, that our effort in epistemology is

. . . only another dream,
Like the rest we have dreamed so long.

Our answer, however, need lack no quality of definiteness. The Principle of Contradiction, we submit, has nothing whatever to do with "time," or with any expression "at one and the same time". In the opening pages of this chapter, we showed that the first principles, of which "contradiction" is one, were made up of transcendental terms, "thing," "being," "not-being," and that "time" could lay no claim to admittance into the company of the exclusive six transcendentals. That alone would be enough to shake the critic's honest belief in his own objection; but there is more. Again and again we find in our experience that "a thing *can* both be and not be at one and the same time," or in other words that the proposed statement is falsified and therefore subject to a multitude of clinging doubts and difficulties. We can obviously look at the same thing from two separate and distinct standpoints. Brandy, for instance, may at one and the same time be food for an invalid, and poison for a dyspsermaniac. Carbonic acid gas is—so biologists believe—food for green cells, and poison for the non-green variety at one and the same time. A war may be good for a neutral power, and bad for Serbia or Roumania—good and bad—at one and the same time. A revolution may be desirable for the people, and very undesirable for a dynasty, always, be it noted, at one and the same time. Obviously then this statement of the Principle of Contradiction, involving the expression at one and the same time, is false. None could hold that such a proposition was either indubitable or undeniable. The factor of "time" must be eliminated.

Yet those who introduce "time" in this strange way, really mean to insist upon a great truth. It is only their formula, and their unflinching conclusions therefrom that are faulty and inaccurate. Some phrase is clearly understood in the curt statement "a thing cannot both be and not be". What is it?

We suggest that when we say "a thing," we mean "a thing viewed formally as the same". We do not and cannot in the face of our experience—however riddled with inconsistency it may be—hold that a thing viewed from *two different standpoints* cannot both be and not be, or that a thing, taken at subsequent moments, cannot present contradictory features. All that we assert is confined to the simple statement that a thing or state or being (viewed in the same formal way) cannot both be and not be. Time is thus eliminated—its inclusion leads only to disaster and untruth—and our critic's objection fail utterly to overthrow the Principle of Causality.

To take a particular instance, the Principle of Contradiction shows that a given reality—viewed in the same formal manner—must either be in a state of potentiality or not, or in other words that the state of potentiality, while it remains such, excludes the state of actuality. Obviously, then, it is unthinkable that one state which excludes another should, of itself, become that other—"nihil dat quod non habet"—without the play and co-operation of something other than itself. That is all that we affirm, now more resolutely than ever, in the Principle of Causality.

Denial of any Assumption.

Before closing this chapter, we must meet an objection of a technical and very different kind. It may be thought that, throughout our analyses, we have tacitly assumed the existence of a real world, in all its complexity, richness, and changefulness; and further, that all our reflections as to the Principle of Causality would fail to carry conviction were they not based upon the changes of this supposed real world. Such a procedure would indeed be vicious, as it would at a critical moment presuppose a positive and certain solution of one of the most urgent and intricate of problems. Fortunately we have no wish to indulge in any such presupposition. We have quoted instances of supposed changes in terms of our ordinary impressions and our normal "experience," in order that a

difficult and delicate, not to say highly technical series of considerations might run more smoothly. The Principle of Causality, however, is a certitude which the mind possesses inevitably and indefectibly, in face of any change. Without glancing at the supposed world of things, we are confronted with the indisputable flux of our own conscious states. These events, sensations, desires, thoughts, delights, feelings, emotions, exist for a moment as they fleet restlessly through consciousness—change enough for a world of reflection.

Indeed we need not even *experience* the fact of change in order to set up the Principle of Causality. We should be driven to the same law if we only considered the *possibility* of some form of becoming, of some acquisition or loss of existence, or of property, viewed in all their generality. In any case, whether we turn to contemplate possibilities, or the untiringly changeeful constellations of the events in consciousness, we see and cannot avoid the conviction that the Principle of Causality is as irrefragable, and as indefeasible as the Principle of Contradiction. The search-principle of philosophy is thus completely vindicated and established. Liberated from every doubt, unmolested by even the most far-reaching denial, unmindful alike of the “hopes that carol,” and the “fears that hiss,” we may press forward towards the capture of many a new position, the existence of a real world, the validity of knowledge, the meaning and vindication of truth. We have made a useful beginning: that is all.

The Sceptic's Parthian Shot.

We are now in possession of five certitudes, the existence of conscious states, the three first principles, and the law of causality. Concerning the rest of our natural “convictions,” we suspend judgment. Yet as a Parthian shot, there is one difficulty that the inveterate sceptic, who dislikes any trace of uncompromising assertion, may fling at us. “It is true,” he may say, “that we have five strangely clinging, persistent certitudes, but what is the guarantee of their truth? We can easily be certain of what is false. What can help us to assure

ourselves that these particular convictions are unquestionably valid?"

Fortunately for us we have already answered the objection of our very method. Certitudes which we possess in all calmness and security may indeed be devoid of all foundation. This we have admitted, and even asserted with some vigour. Knowledge is beset by error. But we have already shown, in treating these particular principles, that no hypothesis, were it even the total inability of our minds to grasp the nature of things, or a sweeping condemnation of all knowledge, can cast the least partial or momentary doubt on our five certitudes. We made a real attempt to throw them all overboard, and found them immovable. We assaulted them with every manner of relevant doubt, and found them supremely unaffected. We submit, then, with no little confidence, that no one has the least right to doubt their truth.

Whatever truth may mean—presumably it is some quality of reliable propositions—these five statements are true. Any doubt that may be entertained in their regard must be nothing short of a capricious illusion, the cry of one who would complain of the darkness of night and the brightness of noonday. Such caprices, in all their windings and consequences, may be studied profitably by the psychologist who studies "border-line" and pathological cases. Fortunately it does not fall to our lot, in epistemology, to take them seriously. If any sceptic, then, feels induced to taunt us now that we have found a certain number of indubitable propositions, let him remember our method—that of rational doubt and denial.

CHAPTER VI.

THE EXISTENCE OF A REAL WORLD.

Now that we have a starting-point in our immovable certitudes, we may proceed to discuss one of the most interesting problems that have ever been raised. Is there a real world of persons and things outside us, and can its existence be proven? Granted, that is, that we are certain of a given number of principles concerning being and becoming, we now inquire as to whether there is indeed a world of extra-mental realities to which our principles can be applied. Upon our answer depends the whole of philosophy, the whole scheme of our "values" in life, and the whole fabric of knowledge. All seems stilled for a moment within us, as we realize the momentous importance, the unlimited consequences of this strangely enthralling question. If we can prove a real world, all is well. If not, we must assume its existence, and base the whole of our knowledge upon an assumption. In that case we begin and end in darkness. Literally everything hangs in the balance.

The Problem.

We may as well clear the air at once and suggest that the problem has often been seriously misstated. Men have asked, "do minds alone exist?" or "must we also concede the existence of something other than mind, of something ultimate and indefinable styled matter?" According to the answers given, philosophers have been called idealists or realists, terms which, on account of their distressing variety of meanings, have long since ceased to have any but the vaguest significance.

Now we submit that it is a point of singular and even paramount importance to grasp that the problem at this stage does not resolve itself into the alternatives "minds alone" or "minds and matter". That is really the question of the *nature* of reality which is treated in metaphysic. What we ask is, can we show that there is *anything at all*, mind or matter, outside the range of my conscious states. All that we know at the moment, and consequently all we have a right to assume, is that our conscious states exist and that certain principles, four in number, are irrefragable. We cannot therefore speak of *other* minds—suggesting as we should say in ordinary language the existence of *other persons*—any more than we can legitimately assume the existence of things. We have no right, in other words, to put the term "mind" in the plural. There is a flux of conscious states, and there are certain principles, which "I" can apply fearlessly to those conscious existences: that is all.

Thus the problem at this stage is perfectly simple in its terms. Do these conscious states of which "I" am aware, exhaust the whole content of being, or are there also *extra-mental* persons and things? *Is there a reality, whether it be one or many, which is not existentially identical with my conscious states, and which, though it may be apprehended by the phenomena of consciousness, is yet independent of my consciousness for its existence?* The alternative is clear-cut: a choice must be made. To remain indifferent is impossible, for in this problem we touch the ultimate foundations of all things.

Solipsism—the Doctrine that there is no External Reality.

Let us examine the first alternative, that only "my" conscious states here and now exist. It is a theory which, so far as we are aware, has never been taught by any accredited school of philosophy, though it has received the name of "solipsism". It represents a pit into which the unwary may

fall, or whither the undeveloped tendencies of their thought may lead. In fact the suggestion of "solipsist tendencies" has in it something of opprobrium if not of abuse.

What, we may ask, would such a theory involve? For the solipsist there would, strictly speaking, be no individual person, no self or ego, no human mind other than his own, no world of material things, no spirit, no God. All reality, indeed the whole universe, would be comprised by the changeful phenomena of his own consciousness which emerge he knows not whence, and pass, he knows not whither, creating themselves apparently out of nothing as they pass and consume their momentary existence.

When the solipsist would look, for instance, at what we should call a "group of men," there would spring out of nothing into his conscious present, a group of sensations and ideas dealing with "men" who never did and never could exist. The solipsist passes. The supposed group of sensations and ideas cease to exist, and what we should have styled a "group of men" passes with them into the void whence they sprang. Or to take another case, the solipsist looks at a bed, and sees what we should call the framework, pillows, counterpane, eiderdown—so many ephemeral sensations which have somehow shot out of the darkness into his consciousness. He sees no mattress beneath, and in consequence that mattress, for him, has not even the scant reality attaching to an element of the sensorial flux, as it hurries out beyond the margin of consciousness. Little wonder that men have recoiled from any such theory, and that none has been found to defend it—in spite of much "bizarrerie"—throughout the long centuries of philosophy's history. In other words, we have struck what the plain man would call a "real deep-seated conviction of the whole human race," that the conscious states of the individual thinker do not exhaust reality.

Yet it must be observed, however unpalatable the truth may be, that no immediate internal critique can ever ruin the position of the solipsist. Thus if a friend for the sake of

argument adopted this theory, with all its limitations and unflinching consequences, we should find—at least if we relied upon internal discord—his fortress impregnable. He could indeed explain nothing, but no *internal* contradiction can be discovered in a theory at once so extravagant and so narrow.

We shall show later that the Principle of Causality, which we have found to be undeniable, is the only engine that can reduce the solipsist position to ruins. For the moment, we rather insist that no intrinsic discrepancy can be shown to exist in this strange, fantastic theory. This, however, need not surprise us. It might be impossible to convince a madman that he was not the Napoleon or the Peter the Great of his dreams. Every argument would be “turned” or perhaps greeted with a smile of endurance: every expressed thought would serve only to reinforce the dominant obsession.

The Alternative—Some Form of Realism.

The alternative that the conscious states of which I am aware do not constitute the whole universe, that there exists some “other,” is a “very widespread conviction”. Naturally we do not dream of invoking the “general consent of mankind” in order to prove that mankind exists. Let us see, then, what *seems* to happen in the way of “grasping” the real world. What is it that gives us this steady, almost unyielding conviction in the existence of some “other”?

From our earliest years we have all been convinced without reasoning or argument by a kind of immediate, processless intuition, that there are persons and things outside us. To question “the fact” is, for many, impossible. It is difficult for all, as the problem only emerges slowly after much reflection and scrutiny. The record of our experience, in other words, shows that we have what purports to be an immediate unargumentative, unproven “intuition” of the existence of something “other” than our conscious states. Can we justify this intuition—there lies the “anguishing” problem—and prove it to be valid?

We may observe at once that this theory of "immediate intuition," like solipsism, cannot possibly be disproved by any internal critique. It has a wide interpreting power, as we may gather in a moment's reflection, and seems to draw together a hundred otherwise inexplicable elements of the stream of consciousness. Indeed we hope to submit a permanent valid proof of the theory in this chapter. For the present, however, as we scrutinize the terms of the problem, it is well to note the impossibility of finding any inherent contradiction in this theory, which, while being fraught with not a few technical and detailed difficulties, leads us out of consciousness into a very different and grander world. If anyone, then, feels a spontaneous attraction for theories, which are free from all internal contradiction—*théories que je comprends "si clairement et si distinctement"* hein?—let him realize at once that "intuitionism" of some kind will answer his purpose just as well as the extravagant fancy of the solipsist.

Without going any further, therefore, we may suggest the following summary. Both "intuitionism" and "solipsism" make an equal a priori claim as each is equally free from internal discrepancy. In addition one has the power of interpreting nearly all our "experience," in a way that brings conviction and certitude to our minds, whereas the other—the philosophy of an oyster in a closed shell—so far from explaining anything, reduces every thought and sensation to meaningless "creative" confusion. The presumption is strongly in favour of the theory expressive of men's deepest conviction: but presumption is not proof.

Fortunately, however, there is more to be said in favour of "intuitionism". The Principles of Contradiction and Excluded Middle are undeniable, as we have already shown. Thus we may state at once, without fear of difficulty, doubt, or question, that either "*my*" conscious states exhaust the whole of reality—whatever "reality" may mean!—or they do not. In the first case, we are committed to solipsism; in the second, we deny that theory. We shall first show that solipsism offends against

the Principle of Causality, which we, using the trial by doubt and denial, have already established and defended. If solipsism fails we are left with only one alternative, that there must be something "other" than conscious states, though it is by no means easy to gather what that "other" necessarily is. We need not, however, anticipate: the work in hand—the destruction of solipsism by an appeal to causality—is quite sufficient to occupy all our attention.

The Defence of Critical Realism.

We begin, then, unhesitatingly with the Principle of Causality. No changing thing or state can be wholly responsible for its own transformations: it needs the operation or co-operation of some agent, force, or stimulus. Now conscious states, the immediate psychological data of introspection, are eminently changeful. For ever coming, for ever going, never-endingly fleeting, they pass and reappear, or group themselves differently like clouds that are driven athwart the sky by a March wind. What can be more obvious, more indubitable? scarcely any two introspections will reveal the same mental content. The imagery will be different: the colours will have faded and given way to greys: the brightness will have disappeared: the sounds will have died away or changed in timbre, pitch, or volume: the accompanying feelings will have passed through one of their curious "crescendo" or "diminuendo" movements, which lay them open to the constant charge of fickleness and unreason: briefly the whole mental "constellation" will have changed in its elements and relations.

Indeed these whirling changes, that remind us of the restlessness and swirl of the waves, are almost beyond the possibility of measurement. Only by long experiment of the closest and most accurate description—as those who have worked in our psychological laboratories know so well!—can we find even the hint of a rhythmic recurrence that may ultimately be formulated as a law. Conscious states change: indeed they never rest. To them in consequence the Prin-

ciple of Causality can and must be applied. No changing state, not one of these phenomena which occupy our consciousness for a moment only to disappear again, can possibly be to itself the full reason of its own transformation. We therefore reach our first important conclusion in this study. *Some force or agent or stimulus, something "other" than the changing phenomenon itself, is required to explain each and every one of the facts of sensation, thought, feeling, and the other psychological events.* We have simply taken an indubitable fact, the existence of the phantasmagoria of conscious events, to which we have applied one undeniable principle, that of causality. The result clearly is beyond the range even of a sceptic's doubt.

What, then, is the stimulus which elicits these transitory phenomena? To suggest the external world by way of answer would, at this stage of course, be unphilosophical, indeed gratuitous. We only know so far of the existence of a whole multitude of psychic events. Naturally, therefore, we turn and ask if any one or more of the psychic states can provide a sufficient stimulus to elicit another. The question is really simple once it is liberated from its cumbersome terminology. Can a sensation elicit a thought, or a feeling of pleasure give rise to a desire? Can the vision of something produce an urging of the will? If so, it would seem that the principle of causality can only drive us from one conscious event to another, from thought back to sensation, from desire back to feeling, or from a play of will back to the vision of something; in other words, it would seem to be incapable of driving us out *beyond* the sphere of conscious awareness.

Do not let us forget our main question. It is this. Do the facts found in consciousness drive us out of consciousness to posit a real extra-mental world? Whether or no, we must allow at once that there seems no difficulty in admitting that one psychological activity may provoke another. We must "go" with the facts, and hope for the best. For instance, a visual sensation of a certain shade of brown, accompanied by a certain

“feeling” of resistance, and possibly by associations of sweetness of taste, may stimulate the thought “chocolate”. The thought and sensation together may easily give rise to a feeling of pleasure, either by way of anticipation or remembrance. The feeling may further lead to a characteristic movement of desire, which in turn may command the motor-sensation of what we call “grasping” or “taking” the chocolate.

Instances are not far to seek. The sight of a person whom we dislike may give rise to an immediate feeling of anger; or again the thought of some wrong may evoke a feeling of resentment, and the two together may by gradual action and interaction—the process is colloquially known as “working oneself up”—generate a state of emotion or even passion. In other words, our whole experience goes to show that one psychological state or event can and does stimulate another. Why, then, should the Principle of Causality lead us to seek anything by way of stimulus, outside the range of conscious phenomena?

Sensation, the Heart of the Problem.

The reason, while not being obvious, lies implicitly in the facts that we have willingly admitted. *At the basis of all conscious phenomena of whatever kind, at the very starting-point of all, lies the fact of sensation.* Without sensation of some kind, past or present, or at least without something of what sensation leaves in our consciousness, to wit, a fund of imagery, there could be no thought at all. I see a green light on a railway gantry as I hurry through the darkness, and I know that my train is due. The starting-point of the thought or judgment is the visual sensation of green. I look at a light blue stone, and think “turquoise”. It may all be wildly wrong and capricious, of course, but the train of psychological events began with a sensation of blueness. Or again, I sit back in my chair, close my eyes, and think of the French Revolution. Here are thoughts, indeed judgments and reasonings without visual or auditive sensations. But how did these revived

thoughts or memories begin? Either with the visual sensation of the print in some volume of history, or with the auditive sensation of the voice of some speaker or professor. Without sensation, either past or present, there could be no thought, and, we may add, without one or other of these events, sensation, or thought, there would be no feeling.

We feel pleased or displeased, over-wrought or enervated, à propos of something, some event or fact, something said or done. Thus any one of these typical feelings, as a rule, follows the trail either of sensation or thought, and is, in point of fact, an "affective" process following upon "knowledge" of some kind. Naturally we may all from time to time "feel" annoyed for no apparent reason. If we are wise, we shall smile at ourselves, and take a long solitary walk by way of a tonic to the nerves.

But even in these cases, the "nerves" do not account for everything. Indisposition of one kind or another may indeed have predisposed us to irritability, so that an unusually small stimulus may produce an unusually large reaction. All that is obvious. The fact remains that even in these apparently irrational feelings there is or has been something, even if it is only the banging of a door, the delay of the post, the loss of a fountain-pen, in short, some act of awkwardness or tactlessness which we have observed. Feeling, in other words, like thought follows in the wake of sense-perception. Once a sensation has been perceived or experienced, the other events in consciousness may run their course.

Thus we may run from a perception to a thought, and from thought to feeling, and the whole "constellation" may issue in a desire to do or to know something. Or we may pass from sensation to imagery, from imagery to thought, and from thought to the motor-sensation of executing some plan. To take one last instance, we may start with a sensation, past or present, move to thought, and both combined cognitive processes may stimulate some emotion or even passion. Psychological events like other "things" in life are either simple,

that is irreducible, or complex. In either case, they start with some inner or outer sensorial event. The beginning of the train of events, then, is always an actual or a past sensation, or the residue of sensation in one or other of the multitudinous kinds of imagery. *We are thus forced to admit, indeed we admit willingly, that sensation may provide the requisite stimulus for producing or setting in motion, however indirectly, all the other psychic events, whether simple or complex.*

What Stimulates a Sensation?

What must be equally obvious, however, is that none of these states, feelings, thoughts, desires, emotions, passions, can of themselves produce a sense-perception, that is, a real "cognitive" sensorial act. By thinking for ever—we use "thinking" in the strict sense of a conceptual act—I cannot bring about a sensation of redness, or let us say a muscular sensation of resistance. I can talk and "think" about "Faust" or "Don Giovanni" for a whole evening without ever once hearing the music, while I think.

None indeed would dream of attempting to produce sensations by means of thoughts, as it seems patent that the effort would be nothing short of a wilful act of self-deception or hallucination. Imagery in the form of sights, sounds, scents, tastes or what not may be sometimes exceptionally strong in consciousness. It does not, however, lead us to confuse any of these image-processes with a "real" sense-perception. Similarly a feeling, say of pleasure, or even the most vehement act of the will in the shape of desire cannot evoke sensations. We often enough desire what we may never behold, and all of us from time to time desire in vain the presence of friends or of those we love. Obviously, if feeling or desire could elicit a sensorial act, I could, by desire alone, summon a person to appear "in the grasp of my steady stare," "in the clutch of my steady ken" as did Browning in his poem on "Mesmerism".

Alas! our human experience lifts a solemn and often enough

plaintive voice against the very possibility. None of the conscious states, in other words, can produce a cognitive sensorial act, which we style, for short, a sensation. Clearly, then, the development of all these confused unsteady comings and goings in consciousness is upward from and not downward towards sensation. Granted an initial sensation, the rest may follow.

Now if sensation can either directly or indirectly provoke the other conscious states, what in turn can stimulate a sensation? What is the force or agent or stimulus—something there must be—which provided the first link in the psychic train? Not the other conscious states, as we have briefly indicated. Therefore since these sensorial activities undoubtedly exist, and since they equally undoubtedly change, they must have some stimulus which is not an event in consciousness. *Thus, at last, we see that there must be something outside the range of all these psychological states of whatsoever kind.* Briefly, there must exist something other than conscious states and solipsism, which denies the existence of that “other” is a radical impossibility. Taken intrinsically, solipsism is unassailable, but it can, as we now see, be shattered by an extrinsic criterion, to wit, the Principle of Causality.

It would be both rash and illicit at this stage to suggest that this necessary extrinsic “something” is the supposed extra-mental world of real things. It might happen to be some controlling spirit, some Force, Energy, Instinct or what not, which in working upon us produced the phenomena of vision, hearing, and the rest. Let us simply “go” with the facts whithersoever they may lead us. For the present all we know with a certainty that no doubt can possibly attain—it comes from the simple application of an indubitable principle to an undeniable fact—is that the flux of consciousness does not exhaust the whole content of reality.

What, then, is the Necessary Extra-mental Stimulus?

Our next step forward is to inquire into the nature of this something, this non-conscious stimulus of sensation, so that

we may have something if not more positive, at least more tangible to grasp. One difficulty must, however, be met before we speed along. It might conceivably be urged—indeed a critic has urged—that we have assumed too much in talking about the changes of consciousness, as though a sensation of blueness did actually change into one of redness, or a feeling of pleasure, let us say, into one of dissatisfaction.

“Assume,” our critic may proceed, “that these are isolated phenomena, simply successive events, separate and distinct psychological existences, and your argument will prove pointless. Assume, that is, that each psychological fact is as independent of its fellows of the same kind, as rockets fired in the night; that a sensation of blueness exists and passes; that a successive sensation of redness springs into being, and then lapses, like its independent predecessor, into nothingness. Test your argument based upon the supposed changes, and you will find that it collapses.”

Now while observing that such an account of consciousness is strangely untrue to our most intimate convictions, and indeed to facts that can be proven, we may yet accept the challenge. We shall, for the sake of our critic, assume all that has been suggested. And then? Well: obviously these isolated events of a sensorial kind come and go—pass, that is, from nonentity into being and then lapse again into nonentity. Each taken separately undergoes the most radical of all changes—the passage from nothingness into existence. Now as there was a time when this conscious state—the vision of blue—did not exist, it cannot possibly have produced itself. To think of an absolute nothing becoming something by means of its own inherent or creative powers is to dream incoherently in terms of flagrant contradictions. Thus the sudden appearance of these psychological events must be explained by something other than themselves, and we are forced, once again, to seek a stimulus or agent outside of the range of consciousness. Whatever we suggest, or whatever subterfuge we attempt, we are driven to this

striking and most important fact, that consciousness is not the whole of reality, that there exists some "other".

There is, then, some external agent or stimulus, a "something" outside consciousness which awakens sense-perception into being. We pass immediately to the next question. What is it? Fortunately or otherwise, there is no direct or easy way of settling the question without rushing to conclusions, or merely restating our common-sense beliefs. We must therefore take the longer, and more satisfying road of elimination, which, unlike many another avenue of argument, not only yields a positive result, but also quietens even the most fretful doubt. The inquiry, moreover, need not be too long-drawn. Indeed all the possible relevant alternatives may be exhausted, in making either singly or jointly three leading hypotheses, which we now turn to enumerate and consider.

The Possible Alternatives.

1. We may say that there is a person or self, a substantive intelligent reality, in whom these states of consciousness, including sensations inhere. We may suggest, that is, that *outside* of the range of consciousness, *below* all the fleeting phenomena, *there is a noumenon or extra-mental reality of a personal type*. This reality would somehow produce its own states; provoke every passing sensation, feeling, and every other psychological datum; and stimulate, in some unseen way, either directly or indirectly, all that transpires throughout the whole continuous range of consciousness.

2. Or we may suppose that there is some Spirit, or some external Force or Energy, which works directly upon consciousness, and awakens certain activities that are characterized as sensations, thoughts, and the rest.

3. Or we may hold that there is an object-world of many real things, which acts as the requisite stimulus for sensation. This resultant sensation would thus be a real, cognitive process, a grasping, in some sort, of things other than ourselves by means of the activities which they elicit in consciousness.

There remains no other hypothesis to make, because everything that can possibly be suggested falls under one of these headings, or under one or other of the possible combinations of the three. Briefly, the stimulus which operates upon consciousness from without—the “something” outside of consciousness—must be either a personal self, some Spirit, Force, or Energy, or else a World of Matter.

At first sight each of the solutions seems equally tenable, as each provides us with the stimulus which we were willy-nilly driven to seek by our Search-Principle of Causality. Yet as we examine the three solutions more closely and more critically we find that the first two are not reasonable, that they offend against other established facts, and that we are left with the third possibility, the existence of a real material world, as the only acceptable philosophic solution.

Let us take them in order, then, as we proceed with this deeply interesting task of elimination.

Can the Stimulus be a Person?

I. The first hypothesis is that of a single person, a substantive intelligent reality, who produces his own conscious states, out of nothing, without reference to anything. If this suggestion be taken as it stands, in isolation from any of its fellow-hypotheses, there would exist throughout the length and breadth of what we sometimes style “the Universe,” just one person, no more, no less, who creates his own transitory conscious states. There would be no object-world of matter, no other persons—one cannot insist upon this last fact too effectively—nothing in fact but one intelligent reality which elicits its own sensations and feelings, and all the events that hurry to and fro within its fitful consciousness. Above all there are no other persons. Reality is one: one noumenal person, and one set of phenomenal conscious events.

The reason, too, is obvious. We set out with one group of psychological facts, and for that group, we sought, necessarily, some stimulus from without. We have found all that we sought

in the one person—granted the tenability of this hypothesis—and hence have no right to summon a whole army of persons from nowhere. One tends to recoil instinctively from what seems only another version of the much-despised solipsism.

Let us see, then, if we can find anything within consciousness—obviously the only legitimate field of research—which may serve as a guide to discuss the hypothesis. Our search will involve a little excursion into the pleasant fields of psychology. The following considerations therefore may be taken as a lemma.

Our Feelings of Activity and of Passivity.

There are moods in which we feel active, and others in which we feel that we are being acted upon. Rightly or wrongly—it matters little—the feelings are as distinct as anything that happens in our conscious lives. When we grasp an object, contracting, as we say, the muscles of the hand, we feel that we are *doing* something, that we are active agents. Sometimes when we come to a decision we feel this characteristic “glow” of activity, while at other times we merely feel that we have surrendered our wills to forces that are greater than ourselves. And instances might be multiplied almost indefinitely.

It may be thought, perhaps, that this feeling of activity is no more than the concomitant of a special type of muscular or motor sensation, the immediate result, that is, of a certain “tonicity” in one or other set of muscles. Possibly, in many cases, this may supply an immediate partial explanation; but clearly the ultimate problem still remains open. What, for instance, produces or stimulates the muscular feelings? What induces “tonicity”? What produces the lassitude and absence of muscular tonicity in our passive states? Obviously, then, this “muscular” theory of our feelings of activity cannot hope to be an ultimate explanation, nor, in any case, can it be pressed too far without losing its dignity.

When, for instance, I sit back in my chair thinking out the

difficulties in some speculative or practical problem, I feel distinctly active. When, on the other hand, I sit in a reverie near a "thoughtful" fire in winter, allowing the vagrant association of many years to combine and fleet through my listless consciousness, I feel distinctly passive. To explain these phenomena, wholly and ultimately by the presence or absence of certain muscular sensations, is surely to strain at gnats. When I think, doubtless certain muscles—let us say of the eyes and jaw—are held in a state of tension; but equally well, though almost certainly to a less degree, the same is true for cases of reverie.

This distinction, in fact, between feelings of activity and passivity is one of the deepest and sharpest that we make. Indeed the presence or absence of one of these feelings may have consequences of untold importance in our lives. Let us take a case in point. A terrible railway accident has happened which has brought death and sorrow to many. The presence of a feeling of passivity, and consequent responsibility at a particular moment, may cause a lifetime of remorse for the responsible agent in spite of the most pertinacious effort of forgetfulness. The absence of that feeling may not only prevent remorse, but also soften regret.

Again, a train-wrecker who has a feeling of activity at a special moment may, finding the all-involuntary sting of self-reproach unendurable, even commit suicide. Another, on hearing the news, will regret it deeply, just as he would regret the fact of some earthquake, land-slip, or other natural disaster. He had no feeling of activity, and in consequence no responsibility. Could any difference, then, be more clear-cut than that between these two feelings either in their immediate characteristics or their results?

Passivity and Sensation.

Now it is a significant and undeniable fact that we all feel passive at the moment of sense-perception. We are convinced that we are undergoing an event, a sensation of brightness,

colour, sound or taste, which is not wholly of our own making. We may indeed assure ourselves, on reflection, that we play a not unimportant part in the affair by preparing ourselves and placing ourselves in fitting circumstances, and perhaps by concentrating our attention; but we must also see at once that something other than ourselves has worked upon us, yielding the consciousness of passivity, or perhaps better, of receptivity, and the sensorial knowledge at one and the same moment.

This, in fact, is an invariable rule. Even in the case of expectant attention, a man who looks for a watch that has fallen, or an observer in our psychological laboratories who, after hearing the signal, awaits the coming of the excitant, feels that he has only prepared himself to see the watch, or to undergo the given experience with ease and rapidity. We may summarize our findings very briefly. To different states of consciousness there are attached significant feelings of activity and passivity, which are well-defined and clearly distinguished. Secondly, in sense-perception we have a feeling of receptivity or passivity.

Our "excursion" into psychology is at an end: we revert to our immediate theme.

With these thoughts in mind, then, we may take up once again our hypothesis of a single person who produces his own conscious states which—it will be remembered—give "real" knowledge of nothing, for outside of himself there is nothing. Now if we are for ever producing our own sensations, and indirectly, therefore, all our feelings, thoughts, and everything else that transpires within us, why is it that some of them yield a consciousness of activity and others of passivity? Why should there exist this strange, deep-seated, even clashing difference, which may even have far-reaching consequences in our moral lives, if all the events flow from the same source, either directly or indirectly? Surely, if the hypothesis were in any way acceptable, we—that is the intelligent reality or person—should *always* be active, and events in consciousness ought at best to register a sliding scale of activity. Why, then, does this

strange difference between activity and passivity present itself at all?

And apart altogether from this incomprehensible difference, which, if the hypothesis were true, ought not to exist, what is to be said in defence of the feeling of passivity itself? Why should we *ever* feel passive—moments of activity are comparatively rare with us all—if we are for ever creating and producing everything that happens throughout the vast domain of consciousness? Yet it is a significant fact that in sensation-processes, which form the indispensable starting-point of the whole train of our psychological happenings, we do feel receptive, or as we say usually passive—that we are being acted upon. Obviously, therefore, every passive state of consciousness lifts its voice against this extravagant hypothesis of a single person. It would render sensations, which it is so necessary to explain, utterly unintelligible. After all, we are only trying to organize or integrate “our experience,” and the hypothesis cannot stand in defiance of these insistent and even dominating events in consciousness.

Passivity and Feeling.

As the hypothesis is one which, in one form or another, is apt to recur in the history of philosophy, we may be pardoned for offering an additional destructive argument. We shall not delay to indicate that the ideas of activity and passivity are indispensable in the formation of languages, though the point is one of undoubted importance. Let us leave sensation alone, for our purpose, and turn to consider the feelings of pain and distress, the hundred sorrows which we sometimes bear so restlessly, and which pass like so many devastating storms through consciousness. If the hypothesis of the personal reality be true, then, I either directly produce all these states of emotion and pain, or indirectly bring them into being by producing the sensations or other phenomena which result in these feelings.

Do we then produce the pain which we should sometimes do anything to avoid? Do we create the grief which may turn

day into night, and make of life one prolonged weariness of the spirit? Do we, who long for happiness, create and perpetuate by our own personal act the feeling of dissatisfaction which dogs our path, and which, we sometimes think, mars our whole lives?

If not, then the whole of this strange hypothesis must be discarded. By itself at least it cannot stand against the plain irresistible fact of the existence of passive states—states of pain or of sensorial process—which obviously must be explained. To dismiss these facts, or to cast wilful suspicion on their accuracy in the interests of any hypothesis, might indeed be theory-making or “principle-riding,” but not philosophy. *We are thus lead to discard the first hypothesis.* In other words, we conclude that if there be a person at all, there cannot simply be one person, and further, that this particular reality or self cannot be the source and stimulus of these changeful events in consciousness with which we started, and to which we now revert.

Is the Extra-mental Stimulus a Spirit or Force and not Matter?

II. The second hypothesis, which attempts to provide us with the necessary extra-mental stimulus of conscious events, is that of an Intelligent Spirit, or Force or Energy which would somehow produce in us those conscious states of which we are aware. According to this theory, which for the sake of clearness we suppose taken in isolation from its companions, there would exist no ordinary world of matter, no person, no ego, no body, no soul; nothing in fact but a Spirit or Force, and the accidental phenomena of sensations and thoughts—to mention but two groups of conscious processes. Those sensations and thoughts, moreover, purport to give us knowledge about a world of things, which, as a matter of fact, according to this hypothesis, has no more reality than the phantasms that awaken such fear in the minds of delirious persons. Once again, it is clear that the explanation would suffice, as it pro-

vides us with the required stimulus from without. *We have only to ask if the suggestion is really coherent or reasonable.*

What, then, is this Spirit or Force which we have invoked? When and how did we ever come to think of the existence of any such entity, in order even to make the hypothesis? What is a spirit, anyhow, and how did we ever come to dream of such a being? Now the answer is not very difficult to give.

From time immemorial we find traces of more or less definite beliefs in the existence of some spirit, some god or gods, some controlling Force or guiding Spirit. Men, it would seem, have felt spontaneously that an unseen something was required at every hand's turn in order to explain the existence, the rhythmic changes, the destruction and death in the world of things. Unquestionably, the belief in a world of real things came first—it was never even asserted, as it lay too deep for doubt or question: then came the beliefs in unseen powers, whether Spirits or Forces, which controlled, and to some extent explained the enigmatic comings and goings in the supposed world of real things.

It is interesting to note parenthetically that this mute and almost unconscious play of reason on the part of men may be justified by the philosopher. Granted the existence of a real world—a something, whatever its nature, that exists—and the fact of change, the philosopher can, by a long and patient series of considerations, prove the existence of one Controlling Spirit. All the difficulties and objections that have been brought against the real valid arguments—they are few in number and have often been seriously misstated—can be answered satisfactorily, and thus, starting from a world of things, some of which pass, some of which endure, all of which change, we are driven by the facts of the case, and the most inexorable logic to affirm the existence of a changeless, non-material Being, a guiding, controlling Spirit.

The long and careful arguments of the philosophers were, however, forestalled by the rapid intuition, or shall we say, spontaneous play of reason of so many members of the human

race, who explained what they saw by some unseen Spirit or Force. Be that as it may, one fact stands out beyond all question. We should never have thought or even dreamt of Spirits or Forces, were it not for the pressing necessity of explaining something, of rendering some account of the gaunt facts of our life, and of the changing "real" world. So much by way of parenthesis.

How Condemn a Primary by a Derivative Conviction?

Now, at this particular point in philosophy, we are examining the bases of our belief in the real world itself, or rather we are trying to discover the nature of the stimulus or agency which provokes our conscious states within us. The hypothesis which we are considering—that of a Spirit or Force or Energy, which, playing upon consciousness, yields illusory cognitive processes—invokes the Spirit, and dismisses the supposed real world to the limbo of inconsequent dreams. That is to say, it invokes some spiritual being or some energy, the existence of which would never have crossed the mind of any living man were it not for the necessity of explaining the supposed vast, changeful complex of things, in order to show that the vast, changeful complex itself has nothing more than the texture of a dream. It takes refuge, let it be observed, in an unknown and incomprehensible being, which may never be seen, never imagined—for imagination follows the trail of sense-perception like a shadow—and never, by any chance, understood.

We shall return to this point later. For the moment, it is clear that this spirit or being, whoever or whatever it is, would be little more than the "malin génie" of Descartes. It would play upon consciousness, yielding the impression of independent "real" persons and things; producing types of "knowledge" within us, which were utterly illusory and perverse; creating certitudes which would be less coherent than our most whimsical prejudices. In fact, our whole conscious life, in which "things" and "matter" play such an enormous part,

would, granted the truth of this supposition, be vitiated through and through—no more than a chaos, or welter. *In other words, the hypothesis is one which invokes an unknown something to explain the genesis of our sensations, feelings, thoughts, by condemning them all.*

Our supposed conversations with friends would be merely the trick of this unseen power, just a group of sounds signifying nothing. Our supposed loves for one another, with all the feelings they provoke, all the hopes and fears, would be nothing more than the idlest and least coherent fancies which would grow in our minds, persevere for a while and then languish, when the Spirit or Force had withdrawn its capricious stimulus. The actions and songs of the invisible Ariel in "The Tempest" would be wisdom and providence itself, compared with this wearisome catena of illusions.

If it is necessary as the result of a persevering inquiry to condemn as twisted or unreliable some or all of our conscious states, we shall be first to welcome the facts and to condemn them unflinchingly. But we ask meditatively, is it not unreasonable to call in the aid of a gratuitous hypothesis, which really condemns them all without a hearing, and which finds in the whole universe nothing more than an army of meaningless, conscious states that vibrate at the touch of some Force or Spirit whose existence is both incomprehensible and purposeless?

We have already shown that the genesis of the very idea of this type of external agency depends upon our belief in the real extra-mental world. To condemn the primary conviction by means of one which is derivative and secondary, is to argue in a tortuous and insecure, if not indeed in a capricious, manner. Genetically, the supposition stands condemned. If Proposition I supports Proposition II, it is worse than unreasonable—it is positively ungrateful!—to use the second to dismiss the first. The whole edifice sways and falls like a tower of cards that cannot withstand the vibration of a heavy footfall.

We may put the same considerations in a slightly different way, without dealing with the interesting question of origins, in order to bring the thought into high relief. The suggested hypothesis invokes a Spirit or Force and dismisses the existence of matter as a plausible but unnecessary dream.

If Matter is Nothing, What is a Spirit?

Let us take the case of the spirit, first, and apply some of those obstinate questionings which in the past have shattered so many hopeful theories. What, for instance, is a Spirit? After all, if a spirit is invoked, it is fair to ask a thorny question. In attempting a description, or even a broad general idea, we look around in vain for terms applicable to the spirit world that contain the slightest trace of positive content. They do not and cannot exist, *for all our knowledge of whatsoever kind is bound up with the actual or supposed existence of matter.*

There cannot be any positive science of the immaterial as such; all that we may know of a spirit or of the immaterial world in general is given in negative terms. It is an *immaterial* reality: it is an *inextended*, *imponderable*, *unquantified*, *impenetrable* being, all of which knowledge, as the prefixes indicate clearly enough, is negative. Briefly, a spirit is a being which is not like "matter," and which, in consequence, does not obey the supposed laws of matter; it is *unlike* matter in structure and function.

Now if this hypothesis of a spirit be assumed, we dismiss "matter" as an idle and unnecessary fancy, as literally non-existence, and then we turn and ask what can be said of spirit. The poor negative epithets, *inextended*, *unquantified* and the rest, on which we relied for our only coherent notion, valuable, though negative, disappear like so many ghostly spectres into the night. We must begin somewhere: we cannot forever chase negatives by negations, or construct a science by hurling negative epithets at non-existence.

If, then, "matter" is no more than a loose idea, sprung from nowhere—in passing, how could anyone even dream

of matter if it is sheer non-existence?—all our epithets unquantified, inextended, imponderable, have no meaning beyond being the negatives of certain illusory processes in consciousness, and the term “spirit,” in consequence, is void of any shred of significance or association. What, then, if our hypothesis be true, is a spirit? Only a “flatus vocis,” a meaningless sound with less power of arousing any coherent thought or feeling, than the hooting of an owl or the screech of an engine’s whistle.

It is particularly difficult to grasp this train of thought on account of our deeply-rooted conceptions about matter. Difficulties might be brought forward by the score, but all turn on the fact that our critic, after gaily denying the existence of a material world, really continues to believe in matter with no little energy. The denial seems easy, though in point of fact it is wellnigh impossible. It is difficult to uproot the convictions of a lifetime, particularly when every thought and nearly every word of our language proves a traitor to our wish.

In order, therefore, to gauge the full impossibility of the whole suggestion, it may be well to leave aside the discussion of spirit, with all its peculiar difficulties and equivocations, and to seek some parallel elsewhere. Let us grant—it is not difficult—that a square circle does not exist. I can, however, coin the epithet “square-circular,” which as a word may ring in my consciousness, without producing any meaning. Let us now add a prefix and form the new ungainly term “un-square circular”. It would, we take it, be readily granted that to explain the whole growth and development of conscious events by having recourse to an “un-square-circular” being would be preposterous to the degree—shall we say?—of insanity. Yet we can only add that an immaterial stimulus—if matter be dismissed as a sheer illusion, without existence or meaning—is in about the same plight as an “un-square-circular” agency. Both lie under the same condemnation of being a meaningless jumble

of sounds, which in spite of their sonorous "ring" cannot be treated seriously by the philosopher.

Again, in case anyone may think that the "square-circle" parallel is a special case, let us take another example. I sit back in my chair and coin a new word—a "ribapinet"—which does not exist anywhere as a reality. That fact need not prevent me from forming the epithets, "riba pinetal," and "unriba pinetal". But if I were suddenly to explain my conscious processes, and more especially the rise of sensorial events by some "unriba pinetal" agency, my case would obviously be desperate and the reader would close the book hurriedly. He need not be more merciful to the suggestion of an immaterial stimulus, if "matter" is non-existent.

At this point some one who has a lingering respect for the "Spirit, Force, Energy" hypothesis may try to make a stand. "Granted," he may say, "your whole contention that spirit is a negative concept, and that its positive counterpart matter is, in our hypothesis, ruled out of existence, what of it? Even though matter be an illusion, our negative concept, 'spirit,' which as you say contains no trace of positive content, need not be meaningless. If not meaningless, why dismiss the hypothesis so abruptly? Because matter is non-existent it does not follow that the term 'immaterial' can have no meaning: because extension is an illusion, it does not follow that the term 'inextended' is utterly meaningless. Why, therefore, deal so cavalierly with this 'immaterial inextended' entity which the hypothesis has invoked?"

At first sight the plea seems hopeful. Let us think again. The hypothesis in question suggests that matter is non-existent; that extension, quantity, weight, and all my other positive impressions are, in consequence, nothing short of hallucinations. Under the influence of the spirit I am for ever conjuring up existences and impressions, which have no reality, and no counterpart, however faint, in the scheme of things. So far we understand. And the immediate conclusion? Obviously that all my positive thoughts and sensa-

tions are as unfounded and unreal as the hallucinations of afflicted persons.

From these positive conceptions I form negative ideas, *immaterial*, *unquantified*, *inextended* and the rest. They at least, says our critic, may have some meaning. Avowedly they may have a meaning; *but only in this supposed world of hallucinations*. "Immaterial" means "not like matter" or not like something which does not exist, concerning which I am subject to persistent delusions. "Unquantified" means "lacking quantity," lacking in some property about which, though it does not exist, I am for ever undergoing hallucinations.

Briefly, all positive and negative concepts are founded upon experience of matter. If that matter be dismissed, we find ourselves in a world of protracted illusions. The negatives of the illusory concepts, though they may seem to have a meaning, cannot be treated seriously by the philosopher.

If Matter does not Exist, What is Force or Energy?

We need not delay long in applying the same type of analysis to the supposed Force or Energy, which, like the spirit, would elicit the sensorial phenomena that purport deceptively to bring us into contact with a world of extended realities. What is a Force? What is an Energy? What they may *be* we ignore: we only know what they are supposed to *do*. On that account they are always explained exclusively in terms of what they effect or what they are capable of effecting, either by way of acceleration or work in the supposed world of real things. Apart from such changes in material things, which we style acceleration or work, neither of the terms Force or Energy can have any real significance. They are by their nature explanatory and derivative, and cannot stand if their foundations are completely undermined. "All the king's horses, and all the king's men," and all the literary devices of granting them capital letters, cannot give them a shred of meaning if matter does not exist. Let us therefore

refrain from employing them to "prove" the non-existence of matter, certain aspects of which—if it exists—they may enable us to measure and understand. Like the first hypothesis, its second companion collapses on closer scrutiny. It is incoherent.

One difficulty must, however, be met, before we speed to our conclusion. It may be suggested, even forcibly, that we have misstated the problem in dealing with this second possibility. "Allow," our critic may urge, "that there is a spirit which operates on many different minds, and you at least avoid the idea of a Universe, which would consist exclusively of one spirit, and one group of vibrating conscious states."

Now we grant willingly that the restated suggestion looks better, and seems far more reasonable, in fact more like the contention of not a few "idealists" past and present. But where in the world did this multitude of minds suddenly spring from? Why are they supposed to exist? May we suggest the application of a maxim, half ethical, half metaphysical, that, "what is sauce for the goose is sauce for the gander"? We, after all, have progressed steadily and shown that the existence of our conscious states could not be doubted, and that we were driven to seek a stimulus outside of consciousness. So far so good. But we cannot see how anyone who takes this path can suddenly start multiplying these conscious realities without rhyme or reason, proof or argument. Whence do all these many minds suddenly emerge? As we saw clearly at the opening of this chapter, the debate lies not between idealism and realism, but between solipsism and its contradictory.

Moreover, even if we granted an indefinite multiplication of minds, the supposition of a Spirit, Force, or Energy cannot escape the charge of meaninglessness, once we condemn "matter" and the material world to the realm of illusions or of ontological non-existence.

The Hypothesis of a Real World holds the Field.

III. With the ruin of the first two hypotheses, we are left with the third of our original trio as the only tenable theory. This, it will be remembered, explains the rise and growth of our typical conscious states by the existence and agency of a real extra-mental world of persons and things which acts upon us and of which in consequence we have some cognizance, however slight and elusive, in sensation and thought. We shall attempt to unravel the implications of the theory, and its epistemological bearings in the chapters which follow.

For the moment it is essential to grasp that we have arrived at a conclusion of extraordinary depth and importance, by a process which, if somewhat long, is at least unflinchingly clear. We endeavoured first, after clearing the ground, to doubt certain principles, and found the task futile—something utterly beyond the range of our powers. One of these principles, the rather obvious law of contradiction, had a pendant in the principle of causality, the validity and applicability of which we were thus enabled to establish. The application of the causal law to our conscious states, whose existence we strove in vain to doubt, and more particularly to the phenomenon of sensation, produced the inevitable and firm conviction of the existence of something, an agency of some kind, which in some way operated on consciousness from without.

For the rest, our discussion of the nature of that agency followed the long trail of elimination. We set up all the possible alternatives which, we found, could be reduced to three typical standard forms. On closer scrutiny, without "serving any cause," we were driven to dismiss two of the suggested solutions, on account of their inability to explain established facts, or on account of their intrinsic unreasonableness. We were thus left with the third hypothesis as the philosophic answer to a difficult question. We close our search with the satisfying conclusion that we stand facing a real world of persons and things.

CHAPTER VII.

OUR GRASP OF REALITY.

At the close of our first chapter we enumerated the five insistent, outstanding questions in the theory of knowledge. The first two ran as follows :—

1. Can we know and prove that there exists outside us a real world of persons and things, to some extent at least independent of our consciousness?

2. Can we know the nature of that reality : not only that it exists, but what it is ?

To the first question we may now give a decided, affirmative answer. We can indeed both know and prove that there exists an extra-mental world of persons and things. There is no reason to assume that this world is one in its solid singleness, and we shall see later that there is abundant reason for asserting a multitude of real existences. That such a world exists, to sum up sharply, is the result of our work to date.

Without making any assumption, however reasonable, with the fullest desire to face all the difficulties that cling like so many burrs in this enthralling study, by means of the most far-reaching doubts and by questions that seem persistent enough, we have been led to establish certain inviolable principles, and in addition the great outstanding fact of a real, material world.

To those who have never faced the complexities of these tangled problems, the whole work may seem "much ado about nothing". But even the least friendly ultra-realist critic may be pleased to hear that our method of answering the first question which we have catalogued leads us almost inevitably

to give a constructive, satisfying answer to the second. We shall see that our knowledge of the nature of reality is by no means inconsiderable, though the conditions of its validity may be somewhat stringent. Having answered the first question, therefore, we turn at once to prepare an answer to the second, which runs : Can we know the nature of reality ; not only that it exists, but what it is ?

So much for a connection of our present thought with our first statement of the problems of knowledge. It may be as well to add a second connecting-link with the summary at the close of our fourth chapter, so that the whole of our findings may be held together with ease as we march forward "to occupy new positions, according to plan".

It may be remembered that in our fourth chapter we made an inventory of the elements that go to make the corpus of our knowledge. We found that all our knowledge is composed of simple data—sensations and concepts—and judgments which may be either immediate or mediate. We added at the time the following words : " Our inquiry into the validity of mediate judgments (which depend upon some process or proof), with all their ornate trappings of hypotheses, postulates, principles, reasonings, facts, may be entirely suspended for the moment. They depend wholly upon the adequacy of the simple data, and the validity of the immediate judgments. It might seem advisable, therefore, to begin by discussing and criticizing the data. That course, however, is quite impossible, until we have established and proven the existence of an external real world to which these data purport at least to have reference. Now in order to prove the existence of the extra-mental real world, we must use certain principles which fortunately or otherwise are immediate. We are thus forced by the nature of our inquiry to turn aside for the moment from the simple data, and to address ourselves to the critique and doubt of certain immediate judgments or principles. To the data we shall return later, when they can be adequately 'set,' criticized, and explained."

In the intervening chapters, we have discussed and tried in vain to doubt the relevant group of immediate judgments or principles. Driven from point to point, we have further been forced to concede the existence of world of real things. *Now, then, we are in a position to revert to the elementary data, to sensations that is, and concepts*, or to put it more broadly, to our means of coming in contact with the world of things or of "grasping" reality. Our work in hand is to examine our psychological equipment in order to discover what our cognitive processes really are, how many there are, and what they purport to effect.

We have reached the conclusion that we stand facing a world of real things; but, as we have already suggested, the conviction of its existence for the mass of men—about whom at last we can speak with confidence and ease!—is not in any sense the outcome of a reasoned argument or of an inductive process. It is given, to most of us at least, immediately as a datum beyond doubt or question, by a kind of processless intuition which ignores all argument. True, this intuition of reality can be justified by a long and patient inquiry, as we have shown; but the whole treatment is only a necessary philosophic justification of the earlier conviction: it solidifies and guarantees the accuracy of the immediate intuition. Now we turn and ask, How is that intuition itself effected, or what comes to the same, What are our means of knowing anything?

Two Distinct Processes of Knowledge—Intellect and Sense.

From first to last our answer depends upon one of the most important facts of psychology, to wit, that we possess two distinct cognitive processes, two ways of knowing or apprehending things, the one sensorial, the other intellectual. We must therefore delay in order to justify this radical and far-reaching distinction. Naturally, as we are not writing a treatise on psychology, we need not raise all the contradictions and heated debates, the strange wanderings and stranger prodigal returns

which mark the history of this question. Suffice it to say that it proved a cardinal point in the philosophy of the greater Greeks; that it tortured the philosophers of the middle ages for three long centuries before they finally adopted the forgotten teaching of Aristotle: and lastly that it may be regarded, at least in its ramifications, results, and implications, as one of the storm-centres in the thought of the last two centuries.

Philosophers have never tired of teaching that intellect is a development of sensation, that our intellectual processes of conceiving ideas, linking them in judgments, and manipulating the judgments by various ways of reasoning, are only the work of sensation, purified, sharpened, refined, "sublimated," or of sensation, schematized and rendered more "general". In other words, according to these theories which have abounded in the past, intellectual operations are ultimately reducible to things sensorial, and our two means of knowledge, intellect and sense, differ not in kind but in degree.

We beg, on the other hand, to submit a totally different group of suggestions, which go to show that intellect and sense are each ultimate and irreducible elements or factors in consciousness; that no sharpening, refining, or sublimating of sensation can possibly produce any one of the three characteristic manifestations of what we style "intellect"; briefly that we have two different and distinct means of knowledge at our disposal. As the point is obviously of singular importance in any thorough treatment of knowledge, we may be readily pardoned for devoting a whole chapter to these deeply interesting psychological observations. By thus looking inward attentively we shall find ourselves well-equipped to discuss our power of looking outward, of "grasping" the real world.

Concepts and Sensations Differ Psychologically.

In order to get down to facts at once, let us concentrate our attention on the extraordinary difference between general ideas or concepts and sensorial processes, taken and scrutinized just

merely as conscious events. We are obviously not attempting to construct a metaphysic or doctrine of reality, nor will what we say have any connection with a Platonic or other theory of ideas. We are only anxious for the moment to discover and register the precise differences between concepts and sensorial processes, as they come and go in the stream of our interior, psychological "experience". What, then, is the difference between these phenomena, *qua* phenomena, as they fleet through consciousness?

To answer the question we may as well take a judicious selection of words or terms which we habitually pass as cheques on the fund of our knowledge; present them to ourselves; and then register by introspection the significant and different happenings in consciousness. What is here set down with all brevity is the result of long and carefully co-ordinated sets of experiments, but the reader who is interested may check the results for himself.

Let us then make three small groups of terms. Into the first place let us say a few words of general significance, like *nation*, *force*, *receptacle*, *student*, *king*. Into the second put a few proper names, which obviously have a particularized meaning—say, *England*, *Cheapside*, *Hamlet*, *King Edward VII*. Into the third and last group put a few nonsense-words, made up on the spur of the moment, which can be pronounced but which have no meaning. Our reason for this—really only a foil for the sake of comparison—will appear later. For the moment let the words stand as *klimpoc*, *torcam*, *utrebaf*. The reader has never heard them before? Neither have we.

The first set, it will be observed, contain what are called "universal" terms, as they are equally applicable to all the individuals or objects of the same class: the second set is made up of words that apply simply to one place or person: the last set containing the unmusical trio, has obviously no trace of any possible or actual application. We are clearly in presence of a sliding scale of applicability. Now let us give ourselves the words to think about, one by one of course,

and then see what transpires in consciousness by an accurate and exhaustive introspection.

Introspection of the Thought-Process.

In the case of the first set I find that I have a dominant all-pervading "consciousness of meaning"; that there rings and resounds through my consciousness a knowledge of the implication of the words, of the "essences" or "natures" to which they apply. Indeed this "consciousness of meaning" is so very full and insistent, that it is almost easy to pass it over in silence as one searches for its less-important and sometimes trivial concomitants. To express this meaning, or knowledge, I might be forced to pile phrase upon phrase to the extent almost of writing a small essay. In consciousness it is given in some condensed, compact way.

A simple instance may elucidate the point. Let us give ourselves the word "king," and see what happens. I see or hear the word, have, that is, a well-defined sensorial impression, and pass almost immediately to the "consciousness of meaning". "King" means for me something very definite—something which we may express by such ideas as pre-eminence, government, sovereignty, dominion, influence, prerogative, power, heredity, and nobility of birth. However roughly sketched, this gives some vague idea of what occupies the focus of my consciousness.

In addition, images of various kinds may come and go. I may have in mind a picture of a jewelled crown, or perhaps a more or less defined representation of Holbein's portrait of Henry VIII or of one of Van Dyck's paintings of Charles I. Possibly, if I am more given to "sounds" than "sights," more auditive than visual, I may "hear" the voice of some king, whose conversation or speech I have heard. So far, then, we find two kinds of content: first the significant consciousness of meaning, and next, a certain amount of incidental imagery which "bobs" in and out of consciousness in a way that is distinctly casual.

There may also be a multitude of associations either fully or half awakened, which often enough come and go while the dominant meaning persists. "King," in other words, may arouse associations of droll sayings, of wise, impetuous or foolish actions, of Machiavellian diplomacy, or what not. If, however, we only allow the word "king" to occupy our attention for a short interval, say for one second, or a second and a half—so that the subsequent introspection may be sufficiently fresh and vivid—we shall probably find that these associations will only be suggested somewhere near the margin of consciousness. Often enough they merely seem to be playing a game of "hide and seek" out near the fringe of the whole process.

Here, then, apart from a number of details of subsidiary interest, is the main summary of our findings. "King" gives us (1) a consciousness of meaning, (2) a fund of imagery of one or more kinds, (3) a group of associations, fully or half developed, apposite or irrelevant. A feeling of reverence or of anger that might accompany the passing of "king" through the consciousness of a royalist or republican would admittedly be a matter of little importance for us in our present study.

Now we may turn to sum up, or rather to assign values to the various factors. During the short interval of our experience—we are freeing the whole discussion from the necessary training of observers, the immediate preparation by signal, the arrival of the excitant, and all the other experimental trappings—the *imagery and the associations are at best of secondary importance*. They tend to flit in and out of the sphere of conscious awareness, with obvious nonchalance, while the psychological content which seems to "define" the term, remains constant—a consciousness of meaning, a steady illumination of the conscious "field". Sometimes no actual associations are present, and we feel no more than the power of developing a certain number of them if required. Sometimes no imagery of any kind, whether schematic, blurred, or realistic can be detected even by the closest and most impartial of observers, once the initial perception of the term "king"

which set the whole process in motion has been left behind.

It is clear, then, that in the case of these so-called "universals," the dominant and all-important factor is the consciousness of meaning or what we, greatly daring, have styled the illumination process.

What, then, is this "consciousness of meaning"? It is not a feeling of any kind, seeing that it can be sharply distinguished from the feelings of tension, pleasure, or pain, which may often accompany the effort of thought. It is not a sensation nor is it bound up with the imagery, which past sensations have left at my disposal. The images may and not infrequently do accompany "the consciousness of meaning," without ever causing or suggesting the least trace of identification of one with the other. Frankly they appear incidental, if not accidental when compared with the "illumination" itself. It is not an association or group of associations, because these latter, however vagrant or insistent, are marked off with no little precision from this consciousness of meaning as something secondary, something that may come and go leaving the central point of consciousness, the focal illumination, serenely unaffected.

This "consciousness of meaning," a steady significant psychological fact, is therefore non-affective, non-imaginal, non-sensorial, non-associative. Without developing any particular theory on the point, we shall refer to it in future as a type of intellectual knowledge. It is clearly knowledge of a kind, and as it is irreducible to sensation, imagery, or any other lower complex, we may safely call it intellectual. So much for our findings after a brief review of the words in the first or "universal" set.

The Consciousness of Particulars.

We may now pass along to consider the second set, the group of "particulars" which are applicable only to one place or person. In order to have a good standard of comparison with our chosen universal, "king," let us select the particular

“Edward VII,” present it to ourselves, as a stimulus for a short concentrated process in consciousness and then “take stock” of the whole proceeding.

Again we find the “consciousness of meaning”—king—asserted in consciousness with unabated vigour; though now it may seem less central, less important. In addition there may be other “meanings” which assert themselves in a similar way, such as diplomat, sportsman, and the like, according to our predominant impressions of the late king. Possibly “diplomat” may occupy the central place among the illuminating ideas, and put the thought of king into the shade or even force it completely into the background. The scope for individual differences in such points is wellnigh illimitable. Apart, however, from special and unusual cases, which we need not stay to consider, there will be present some illuminating idea or “consciousness of meaning” like king, sportsman, diplomat, or possibly all three taken one after the other. In other words, the particular term “Edward VII” gives rise, among other things, to at least one “universal” idea—an interesting fact of more than usual significance to which we shall revert later.

Together with the controlling idea—we pass to the second element of our introspective data—there will now certainly be some imagery, which, relatively stable in consciousness, helps to “define” Edward VII. Probably for most there will be a visual image of some portrait or photograph of the king, or possibly an image “in three dimensions” of some bust or statue or of the living king as he himself appeared. Naturally too, other people instead of having pictures by way of imagery, may hear a sound, let us say, the characteristic timbre and pitch of the late king’s speaking voice.

Thus imagery of some kind will be found, if the scrutiny be sufficiently close, and unlike the images that came and went—as though conscious of their irrelevance—when I thought of “king,” the defining image of “Edward VII,” whatever it be, lingers in consciousness as an integral and important part

of the process. In the effort to hold "a particular" in consciousness, apparently something other than "universal" concepts, like king, diplomat, statesman, and the rest—which taken simply or collectively might be applied to a multitude of crowned heads—must play a *co-defining* part in the mental constellation.

In addition to the ideas and imagery, a number of associations may appear, or announce themselves as ready to appear by some distinct feeling of familiarity, or by some consciousness of power to revive a group of past impressions. Over the remaining, subsidiary affective processes which may be aroused we may pass in silence.

Summing up, then, we find that in the case of a "particular," like "Edward VII" or Cheapside, there will be a sensorial element—for images and personal associations are always sensorial in kind, being nothing more than the revival of past sensations—and in addition a fairly well-defined intellectual element. Once again we are not writing a treatise on psychology, and so unfortunately cannot cite the many experiments which go to support these facts of observation. Let the reader experiment for himself. In general it will be found that while one can think the universal without imagery—need we repeat that the starting-point is always some sensation or image, and that we are only referring to the developed "thought"?—it is impossible to think the particular—at least to consider its actual particularity—without the play of some individual image or association.

With a turn of our thought we find ourselves in a moment face to face with our initial theme. We wish to show that intellect and sense provide two irreducible modes of knowledge, that they differ essentially and radically. Here at last in contemplating the particular—one of our most frequent psychological performances—we find that the imaginal or sensorial content is held in consciousness *side by side* with the illuminating idea or intellectual element. They are as clearly distinguished in my immediate consciousness as a colour from a sound, or

as a bitter taste from the thought of justice. Our findings, therefore, in the case of "particular" terms go fully to support our review of their "universal" colleagues. Intellect and sense are two irreducible elements, and in consequence we have two distinct ways of apprehending things.

The Consciousness of Nonsense Words.

Lastly, in order to find a standard of comparison, and to assure ourselves that these "consciousnesses of meaning" are more than usually real, let us consider our nonsense words, *klimpoc*, *torcam*, *utrebaf*. What happens when we "think" about *torcam*? The outstanding fact is that there is no "illumination" of consciousness: the word has no meaning. One feels a conscious void, a sense of being frustrated in one's effort to grasp something. "It seems very pretty," as Alice said when she had finished "'Twas brillig and the slithy toves," "but it's *rather* hard to understand." It awakens no imagery, no associations, no feelings of any kind; nothing in fact but a few irrelevant philological speculations for those who are given to theories about the derivations of words. For most of us there is nothing more than a dull, meaningless repetition of the sensuous impression, of the appearance of the written word or of its sound as spoken.

As a foil the experiment is not without its importance. After "toying" with nonsense words, we may take up once again—not without a sense of liberation—a term like nation, empire, or king. The psychological reaction is specifically different, and may enable us to realize more fully what is meant by a non-sensorial "illumination" or "consciousness of meaning".

The two types of knowledge, sensorial and illuminative, stand out, therefore, with no lack of clearness or precision. The intellectual consciousness of meaning is *expressed* in "universals," while the sensorial consciousness of particular attributes, qualities, or properties is *given* in sense-impressions or images of one kind or another. Sometimes the sense-impres-

sions are bound together and expressed in a particular term, like Cheapside. More often, as in the case of river scene or landscape, we vainly strive to express their real particularity by adding epithet to epithet, trying, as it were, to tighten the ring of universals about our "particular" quarry. To the question of their expression, however, we shall turn later. For the moment, we submit that these two distinct modes of knowledge are both *given* in consciousness.

The fact that the modes are really distinct has been challenged almost unceasingly. Philosophers seem loathe to concede that sensation and intellect differ in kind. Ingenious efforts, in consequence, have been made to reduce the intellectual "concept" or idea to some refined play of the sensorial process. We can only plead that the facts which we have cited without any polemical purpose, do not tend in the least to support this contention. As, however, the point is of considerable importance in our treatment of knowledge, we turn willingly to consider two typical and rival explanations of the facts of consciousness.

The Doctrine of the Blurred Image.

And first we may take the doctrine that a concept or idea is no more than a blurred image. The concept, according to this theory which we now proceed to state, would result from the same process as sensation. In presence of an object we enjoy, say the protagonists of the theory, a sense-perception which fades away, leaving a certain fund of imagery as a residue in consciousness. But sense-perceptions and images are "particular," applicable only to one object, and in order to economize our conscious effort, we require something in the shape of a general idea, which may be applicable to many different objects of the same class or species. To register nothing but particulars would weary the veriest Titan. In answer, then, to this demand for psychic economy, the image which at first lacked no vividness and no element of particularity undergoes a generalizing development. It be-

comes less clear, less particular, "blunted," in fact, and blurred. Once reduced to this generalized state, the developed image serves admirably as a "rough and ready" psychological equivalent for numerous things of the same kind.

Instances may be said even to abound. If I study biology, I look through a microscope at multitudes of living cells. I cannot carry all these particulars with all their individual peculiarities in consciousness, nor preserve them in memory. Little by little, therefore, one picture comes to represent all living cells, and thus to be applicable to many different objects which are distinct in almost innumerable details. Some of my first images have, thus, by an imperceptible series of changes, become less clear, less aggressively particular, "blunted, in fact, and blurred". The resulting, generalized, schematized image, to which by long use I have grown accustomed, tends to be less insistent in consciousness and, in consequence, to be overlooked on introspection. Unmindful of what is present though unobserved, some of us are impulsively led to think that concepts are separate phenomena, really distinct from all imagery, whereas the concept *is* the blurred image, no more and no less.

In a similar way to the biologist, a student of anatomy comes to have a blurred image or concept, which represents all human skeletons in his thought. Or, to take one last case of a more ordinary kind, I think of a king. At first my thought will be of one particular king, with all his individual characteristics of appearance and bearing. But, little by little, I manage to dissolve the individual notes from my visual image, to attach more and more importance to the symbols and notes of kingship, and finally to develop a vague schematic picture of a man, crowned, wearing royal apparel, and bearing a sceptre, which will serve to represent all the kings of the earth of all times. My concept of king *is* this generalized image.

The theory of the blurred image is, beyond question, both "clear and distinct". Where, then, does it fail?

Criticism of the "Blurred Image" Doctrine.

The only test of the theory is to see how far it meets and interprets the psychological facts which are brought to light by introspection. That blurred images exist, of course, is beyond doubt. Many of us have in addition to those already mentioned quite a number of these "outline" representations for "mountain," "watershed," "valley," "river," "sea," "lake," "book," "statue," "picture," and the rest. They occur frequently enough in consciousness, and can readily be described with any required degree of precision by a well-trained observer.

But there are a multitude of "universal" terms to which there are no corresponding generic images. Speaking for ourselves, we at least have no such schemata, for the terms diplomat, statesman, president, judge, student, chair, camera, nor for a number more. Imagery of an incidental and casual type may present itself in many of these cases, but such images make no claim to be either generic or representative. Yet in all occasions when I present myself with these terms, I have a well-defined "consciousness of meaning," or concept.

When "blurred images" play a part in the unfolding of some conscious process, we can detect them with ease and rapidity. On the other hand, when, after peering into every "angle" and "corner" of consciousness, we register not the presence but the definite absence of these "generalized" images, our statement of fact must be accepted as final. *Briefly, a "consciousness of meaning" or concept may be present, without even the accompaniment of a blurred image.* To identify the two processes is therefore impossible. But there is more.

Let us revert to the case of "king," and let us grant that we are in possession of some outline picture of a man, bearing the symbols of kingship, which somehow stands for "king" in our consciousness. On presenting ourselves with the word "king," we shall find (1) a consciousness of meaning, or what we have referred to as a steady illumination of the conscious "field," and (2) the representative blurred image. Without

the "consciousness of meaning," the blurred image would lack all real significance. The "vivid," "plastic" imagery of everyday life possesses no illuminating power in consciousness. It is there, it is given: that is all. The "blurred image," once dissociated from some controlling idea, would be in the same plight. It would be given: it would illuminate nothing, for there would be nothing to indicate either its "meaning" or the range of its applicability.

This point can scarcely be insisted upon too forcibly. Let us, therefore, take a few parallel cases, so that there may be no lingering doubt. In presence of a Chinese or Pāli text, we ourselves would have a well-defined visual impression or image, but unfortunately no "consciousness of meaning". It would be present in our consciousness as a datum of sense, and that is all. Similarly, when we are "half-asleep," a whole procession of visual images may file through our consciousness, hurrying to and fro, leaping from century to century, from place to place, in unrestrained, meaningless, purposeless confusion. The images are present, but "the consciousness of meaning" is not there to illuminate the process. Such instances show all too clearly that sensations and images, of themselves, have no meaning, and no application.

And the "blurred image" of the psychologists? Like all its companion processes, it would of itself be a datum without significance, and, above all, without trace of general, representative power, apart from the accompanying work of intelligence, which discovers meanings and applications. As, therefore, the blurred image, when it appears in its representative character, is found *side by side* with the intellectual "consciousness of meaning," it is well not to confound two processes which are not only distinguishable but even separable. The theory which identifies them is, we submit, untenable.

The Appeal to the Subconscious.

A second rather more subtle attempt has been made within recent years to level down the supposed intellectual knowledge

to sensorial processes, and to the general phenomena of association. According to this theory, the "awareness of meaning" is undoubtedly asserted in consciousness, but does not in the least argue the existence of a separate intellectual element. True, this "consciousness of meaning" is not confounded with imagery; it is ascribed to the incipient play of associations, to the half-stirred condition of a multitude of reproductive tendencies, below the threshold of consciousness. The dominant "consciousness of meaning" is thus made once again to exemplify the law of psychic economy. If I liked to exert myself I might develop a number of relevant images à propos of a given term. As it is, I am content that the associated ideas should be aroused to a state of preparedness, that they should be ready, at call, to make an appearance in consciousness. "The associated ideas need not actually appear; the reproductive tendencies need not discharge their full function; the half-arousal, the sub-excitation suffice to set up a determinate, unequivocal reference, which manifests itself in consciousness as a knowledge or meaning."¹

Thus when a term with a meaning is presented, many associations of eye and ear formed in the past tend to spring into consciousness. Even before they appear, we feel their coming, and the fact of their presence even below the threshold of awareness, gives us a consciousness of meaning, a sense of familiarity and of being "at home" with the term. Where there are no such associations, as in the case of nonsense words, we feel the void, for there is nothing ready to leap over the limen, into the sphere of "awareness". The theory seems not only "clear and distinct" but even picturesque. Why, then, does it fail?

Criticism of the Appeal to the Subconscious.

To get to "grips" at once, there is only one fatal objection to this "sub-excitation" theory. It attempts to explain a real

¹Titchener, "Experimental Psychology of the Thought Processes," p. 105. The theory is that of Ach.

significant fact of consciousness, to wit, the meaning which occupies the focus of our attention, by something which is not in consciousness at all. That associations may be half-stirred, ready to assert themselves, we need not question. But when the associations, fully stirred, enter the circle of consciousness, they can be distinguished with every possible degree of clearness from the consciousness of meaning. They do not "illuminate," nor contribute to the meaning, which is already present: they only appear as an incidental group of associated ideas, linking up the present with the past. If, therefore, a fully developed association does not define the meaning, why should its half-stirred companion enjoy this extraordinary power?

Besides, we may ask, what *is* a half-stirred association, here and now? Nothing more than a tendency, or at best, an undeveloped beginning of some process. To explain an actual fact in consciousness, by an undeveloped beginning of some process below the threshold, is not a felicitous effort. Once stripped of its picturesque metaphors of associations holding themselves in readiness to leap over the limen, and the rest, we find the thought not a little vague as indeed are most theories that plunge into the obscure sub-conscious region. Why should a half-stirred association, or a whole army of them make me think in a way which we express by terms like "sovereignty, dominion, prerogative, nobility" in presence of the word "king"? No! Associations, whether fully or partially developed, might help to explain a general feeling of familiarity, as they tend by their very nature to link up the past with the present. They cannot hope to explain the central consciousness of meaning, which is non-affective, non-sensorial, non-imaginal, but, in point of fact, intellectual.

We have only briefly indicated something of all that might be said to prove the existence of two distinct kinds of knowledge. Let the indication suffice, so that we may pass to consider some of the typical differences between the two modes.

Outstanding Differences between Sensorial and Intellectual Knowledge.

The first leading characteristic of sensorial knowledge which distinguishes it from the generalizing play of intellect, is its inherent, obstinate particularity. Sense-impressions of whatsoever kind, together with the imagery that follows in their train—in fact the whole sensorial coefficient—is signed and sealed with these individual, “one and one only” characteristics. An auditive impression will have a certain timbre, pitch, and intensity, or if it be a mere noise, a degree of loudness and sharpness, which will mark it off for the trained observer from all other sounds. A visual image, whether it be of an object or a something which floats idly through my imagination, will have a certain colour, brightness, shape, extension, depth, or, if not all, at least some of these qualities to distinguish it clearly enough from all other images of a similar kind. Even a schematic image, such as the diagram of a watershed, or of a living cell in a textbook on biology is always particular. It may be made to stand as a representative for all watersheds or all living cells, but the diagram itself, *apart from some illuminating idea*, is as particular as any other sense-impression. Granted a whole string of conventions, and the postulate of its representative character, the diagram may be given an added significance. Of itself as it appears in consciousness, it is just as particular as a group of colours seen for a fleeting second in an autumn sunset. Briefly, no sense-impression, and no image can ever be anything but particular. Their qualities and innumerable details mark them off as single, isolated experiences.

Knowledge of the intellectual type, on the other hand, is strangely different. It can never by any chance be particular: it is and must necessarily be general. A true concept is a thought which is equally applicable to every member of the same class. “Being,” for instance, is applicable to everything that exists on land or sea, in Heaven or on earth. “King,” too, is applicable to every crowned head that may ever have

been. These terms or concepts are almost unlimited in the range, and on that account have been styled "universals". The word is not felicitously chosen; though of course every philosopher, like Humpty-Dumpty, has the right to say, "when I use a word, it means just what I choose it to mean, neither more nor less". "Glory," for that scornful potentate meant, it will be remembered, "a nice knock-down argument".

Without entering into the merits of the question of terminology, let us refer to these intellectual ideas as being general rather than universal. This generality, then, is a striking and inevitable feature of all intellectual operations.

Let us take just one instance, so that our thought may not be suspended in mid-air. I look at what I believe to be an oak-table. I find in consciousness a whole crowd of visual images of the varying shades, corresponding to the different "grain" of the wood, and the play of light, and in addition a number of shapes which together give the object its "table" form. Over and above the imagery I find the "consciousnesses of meaning" or concepts, expressible in such terms as "table," "oak," "wood," and the rest. Such thoughts are no less clear than the imagery: indeed they are more significant and certainly more insistent, as without them the images would be nothing more than a group of meaningless data, encumbering consciousness. But the state of mind which is expressed in the term "table"—probably the word itself is not present—is equally applicable to every table of whatsoever kind that ever was or can be. The thought, as such, contains no trace, no hint of particularity or singleness of application.

Similarly the other thoughts, expressed as "wood" or "oak," are applicable either to all kinds of solid material that can be obtained from trees, or to all the wood that can be obtained from the oak-trees that are scattered across the face of the earth. The absence of limit in range of application, in a word, the generality of the terms is apparent.

The contrast, therefore, between sensible and intellectual knowledge leaves nothing to be desired in the way of complete-

ness or precision. We might add a multitude of interesting details to show how all abstract terms, like nationality, blueness, irrelevance, and, indeed, our whole stock-in-trade of epithets, adverbs, and of verb-forms, are all equally general; but we should be wandering rather far into the domains of grammar and logic. *Suffice it to say that language being the work of intellect, bears its characteristic stamp of generality.*

One direct result of this widespread generality may be noted in passing. We human beings cannot possibly by a purely intellectual act grasp, or indeed conceive, the particular or the individual. We can, of course, represent a particular to ourselves in consciousness, by holding together a certain number of intellectual ideas, and a certain group of sensible images, as we found on thinking "Edward VII". But individuality as such is unknown to our intellects. We may add one general term to another, king, diplomat, sportsman, sovereign of England, thus tightening the ring and hoping, if possible, to limit the applicability of the whole group of general terms to one single individual. But we must fail in the long run. By piling up terms of general range, we can never hope to "corner" individuality. Without doubt, we *experience* the individual, but when we turn to *express* what we "know," we add epithet to epithet, phrase to phrase, and produce, not the individual, but a type.

We naturally express ideas, or just that part of our experience which is made up of intellectual acts, while our sensible experience, in all its vividness, its wealth of detail, its insistent particularity must remain forever incommunicable. Thus language, while it may suggest much, may never explicitly reveal the fulness of our human experience. We know more than we can express.

The Relative Stability of Intellectual Acts.

To this first clashing difference between sensible and intellectual knowledge, we may add one other before passing to our summary. Concepts, by which, of course, we mean

intellectual states of consciousness, enjoy a certain degree of constancy and stability amid the flux of the other psychological events. "Brother" has the same meaning for me now as it had many years ago. So, too, the meanings of "nationality," "force," or let us say "militarism," do not vary though my judgments of their utility or value, for individuals or governments may be easily changed by the pressure of new facts. New experiences, new associations, even a total change in our "judgment of value" may thus be effected, without tampering in the least with the unchanging "meaning" or concept.

Now, this relative degree of fixity distinguishes my concepts sharply from my sensible knowledge. It needs little observation to convince ourselves that we rarely see an object, or hear, shall we say, a sonata of Beethoven in the same way. I myself am in a different mood, or my nervous energy, and with it the sharpness and fullness of my perceptions, may have changed appreciably. Again, the object itself may have varied in one or more of a hundred ways between the two observations, as, let us say, our complexion and general appearance varies at different hours of the day. Even if the object be as fixed as a marble statue, of which we sometimes think as a symbol of immutability, then the light, the environment, the general arrangement of things or the circumstances may have altered sufficiently to yield us a new, distinct impression. But why labour an obvious point? It were a platitude among people of refined and sharpened perception to say that sensations are as changeful as the needle of a compass carried by an unsteady hand.

And as sensations fluctuate within wide limits, the imagery, which they leave behind in consciousness, to be recalled by the law of association, is still more fleeting and inconstant. Scarcely ever the same for two consecutive fractions of a second, this vast fund of imagery, the record of past experience, is almost the despair of the psychologist. Like the film of a cinematograph, each simple picture on closer scrutiny is seen to differ from its immediate neighbours.

Once again, the difference between the two kinds of knowledge is sufficiently characteristic. Concepts, by their nature, enjoy a certain constancy and fixity, which is denied to the imagery and impressions that are gained sensorially. On that account, no doubt, communication between man and man is made in terms of intellect and not of sense. Language, that is, is made up of general terms, which on account of their constancy of meaning and relative fixity, lend themselves to the difficult task of communicating ideas. Sensible experience, by reason of its abundant detail and overwhelming inconstancy and diversity, remains inarticulate. Indeed, it remains the personal inalienable property of each individual.

The Diversity in Application of Sensations and Concepts.

So far, then, we have shown that we possess two distinct kinds of knowledge, two irreducible psychological processes, which are characterized by deep-seated and abiding differences. So much for our psychological equipment. The two processes exist. How, then, are they applied to the real world about which they purport to give us specific information? We have already proved that we stand facing a real world; that we lie, as it were, enmeshed in a scheme of things. These sensorial and intellectual elements of our psychological equipment purport to inform us about that scheme of things. Is there any difference in their respective claims, in the way in which they "grasp" things, or what they grasp? For the moment, we only seek to know what precisely is the nature of their claim: its validity will be tested later. Let us, as usual, take one or two instances.

I stand gazing at what is ordinarily called a diamond. The thought "diamond," let us say, is in my mind, side by side with the sense-impressions of brilliance, "rose-shape," translucency, and that so-called "spirit" which no jewel of distinction can lack. If I am asked by a friend "What *is* that?" I reply unhesitatingly "A diamond". If I am further asked, "Why

are you looking so intently?" I might reply, "Oh, it *has* such marvellous brilliance, such a beautifully-cut rose-shape: it is not 'dead,' but *has* real spirit". My words betray an extraordinary difference in the *application* of my concept, and of my sense-impressions. The object is said *to be* what I conceive it, and *to have* or *to possess* the qualities made known to me by sensible impressions.

Similarly, in answer to the question "Who *is* that?" I may answer, if I do not recall the name, "Oh! that *is* a man whom I knew, etc. . . . who *has* the strangest coloured hair, the keenest eye, and the worst taste of anyone I know". Once again he *is* what my concept represents—a man—and he *has* what my sense-impressions have registered. Instances might easily be multiplied. That which *is* an elephant is said *to have* a vexatiously good memory, a swallow *to have* a strange homing instinct, a dahlia *to have* an unpleasant scent, sodium *to have* a bright metallic lustre.

Naturally, the same stress is not always laid upon these remarkable differences which lie embedded deeply in the structure of our language. The fact remains that they are very real, and that they imply a whole philosophy.

By intellectual processes, expressible in general terms such as king, man, student, statue, lamp, and the like, I purport to grasp the essence, the nature, or the being of the several objects. I profess, by these means, to be able to answer the question as to *what they are*, in a word, to know their intimate nature. By my sense-perceptions, on the other hand, I seem to grasp not the nature, but simply the principal qualities or properties of the objects that engage my attention.

Thus visually I grasp, or think I grasp, the qualities of colour, brightness, shape, extension, depth: by my auditive impressions, the qualitative timbre, pitch, and volume of the notes they are capable of making: by my sense of touch, I gather whether the object is rough or smooth, rigid or plastic, and gain some appreciation of its magnitude: and so on for the other sense-impressions. They all purport to give me informa-

tion not directly about the nature of the given object, but about its characteristic marks, properties, or what we in metaphysic style its "determinations".

Now as we possess both the intellectual and sensible elements of knowledge at one and the same time, we may combine the two claims, and see that we purport at least to have more or less explicit information as to the nature of things, and of their chief characteristics. The claim is extraordinary enough, and must be scrutinized carefully in the sequel. For the moment it will be clear that the claim itself is found implicitly in our use of language which shows how differently we conceive the range and applicability of two diverse orders of knowledge.

We began this chapter with the question, "How do we grasp reality?" Our answer is now ready. We are in possession of two distinct kinds of knowledge, belonging to the irreducible conscious elements of intellect and sense. One, the intellectual, behaves, at least, as if it grasps the specific nature of reality: the other, the sensorial, gives us a whole fund of highly particularized information about the characteristics of that same reality. By combining the two, we claim to have a not inconsiderable stock of knowledge. The claim of course is interesting. Need we say, it is offered neither as presumption nor proof. In the next chapter we are prepared to consider arguments in favour of the real meaning and validity of the claim. At the moment we have done no more than bring the question of human knowledge to a point. Having thus sharpened and "set" the question, we may now turn to what has been called the anguishing problem of values—the validity of knowledge.

CHAPTER VIII.

THE VALIDITY OF KNOWLEDGE.

IN every science we find one or two fundamental facts or laws to which all the other facts are tributary, and around which all the leading conceptions pivot. The rest is a matter of inference, extension, or application. Now the theory of knowledge is no exception to the rule. The questions in this discipline may be multiplied in the most bewildering manner by anyone who has a genius for seeing difficulties; but all on closer scrutiny are seen to be nothing more than aspects of the five great problems with which we started our inquiry. Of the five, there are two which far transcend the others in power and importance. They alone have the power of suspending our inquiry, and, in the absence of a satisfying solution, of ruining our hopes. They are the real Gordian knots. One of them was "untied" when we established the existence "outside us" of a world of things which play upon us, in some strange way eliciting the phenomena of sensation and thought. To the second we must now address ourselves. It may be put very simply in the form of a question. Is there, then, any reason whatever for believing that these sensations and thoughts give us *reliable* information about this "independent" world of persons and things? And if so, what is the reason?

We have seen, as the result of a purely psychological study, that the ordinary thought or concept which may be expressed in a general term claims to determine for us the specific nature of its object; while in sense-perception we seem to be given the marks or properties by which presumably that

same nature is manifested. Now we turn and ask, challengingly enough: Is the claim valid? Is the information reliable? And if so, why? On the nature of our answer depends the whole success of the theory of knowledge. The fate of all our knowledge of whatsoever kind, in fact, hangs in the balance. Could any question be more vital or more enthralling? And, incidentally, could any question be more intricate?

To begin with, we must relinquish any vague hope of being able to scrutinize the nature of "things as they are" in themselves and for themselves. Things exist. So much at least is certain. They give rise in us, moreover, to cognitive phenomena, which are capable of setting the whole gamut of our conscious states in motion. Beyond these phenomena, of sensation and thought, whether they be reliable or not, or what comes to the same, beyond the presentational order we may never pass. Without hinting obliquely at any Kantian limitation of knowledge it is clear that we may never know more of things than we find within our consciousness. Any theory therefore, which seems to suggest that we can escape from our own consciousness at a critical moment, in order to contemplate "the thing in itself" or that we have some strange power of getting behind or beyond our ordinary means of knowledge must be dismissed, however regretfully, as an ultra-realist's dream.

All that we can ever know is given in sensorial and intellectual processes. To appeal therefore to anything "beyond," above all to appeal to the *very nature* "in and for itself" of the thing, which these processes alone can reveal to us, in order to test their truth or accuracy, is intrinsically impossible. One feels inclined to quote that wise saying of Tweedledee: "If it was so, it might be: if it were so, it would be: but as it isn't, it ain't. That's logic."

Just as we found, however, on examining our consciousness that we were forced to infer the existence of an extra-mental real world—to see, as it were, that our sensations had a jagged edge where they had been torn away from reality—so now

perhaps by examining these conscious phenomena once again, we may be able to discuss the conditions of their validity, of their reliable application to the world that lies outside the sphere of consciousness.

The Meaning of Validity.

What, then, do we mean by the validity of knowledge? I stand before what is usually known as a bar of gold. My consciousness yields me various visual impressions of the characteristic rich colour of gold, of a certain lustre, a particular shape, extension, and the rest, and in addition the intellectual thought or concept "gold". That concept defines the nature of the particular object. On being "unpacked," the concept refers to a being or thing which possesses the qualities of colour and lustre that are given in the concomitant sense-impressions, and which, in addition, does not tarnish nor yield to the action of ordinary acids. Possibly the concept may include the fact that gold is more than usually scarce and valuable, and that it can be hammered out to the thinness of a leaf.

Now when we ask if this information is valid, what do we mean? Obviously a sensation of itself can neither be valid nor invalid, neither true nor false; nor for that matter can a concept be true. I think "gold," and I have a visual sensation of its distinctive colour. I find them in my consciousness: they are "given" as immediate data: they are ultimate facts. Nothing in the world can make them either true or false. Naturally if I proceed to formulate judgments, that is, to manipulate my concepts and sensations, to say "*this* is gold" or "*this* object has a golden colour," then indeed the *judgments* may be either true or false. But the concepts and sensations of themselves are and can be neither true nor untrue any more, let us say, than are conjunctions or prepositions. In and for themselves they are simple facts. It is only the *application* of the simple facts to the objects of our experience which may be inaccurate or perverse.

If, for instance, in presence of a crystal, I thought "diamond," or on hearing an aeroplane thought "motor car," what of it? The thoughts and conscious events, neither true nor untrue, until we think of relating or applying them to the external phenomena, or objects. Habitually, however, we make these applications, speedily enough, by the formation of simple judgments. What, we ask at present, then, is this. Does the concept "gold," in any sense "reflect" the nature of the object styled gold, and do our characteristic sensations yield valid information as to its properties?

Before giving our answer with its accompanying reasons, we must first of all prove our own question.

What We Mean by Colour?

When we say, for instance, that the bar of metal has a golden colour, thus establishing a relation or making a judgment, what do we mean? Obviously, unless we are children or the very plainest of naïf realists, we do not mean to suggest for a moment that the colour, gold, lies embedded in the bar, nor that the metal "contains" the colour, as water may be thought to contain a spoonful of salt in solution. Further, we cannot mean that the colour lies as a sort of veil over the surface of the metal, nor—this last denial is more important—that the colour is "there," "all the time," even in the absence of light or of any perceiving eye.

What, then, do we mean precisely by our statement? When all that is impossible has been eliminated from our thought, we can only mean that the metal is of such a nature that when played upon by ordinary "white light," it yields me the characteristic colour-impression which we style "gold". Granted, that is, (1) the presence of the metal, (2) at least a pencil of light, and (3) an agent capable of visual perception, the impression "gold" will be recorded.

There is a "something," a quality of some description belonging to the metal, which, to the human eye in suitable conditions of light, gives this striking colour-effect. What that

“something,” that quality of the metal may be “in itself,” I do not know, and, in consequence, I make no assertion about its intimate nature. Whatever it be, this “*je ne sais quoi*,” it is *translated* for me in terms of colour.

If I am told by the physical scientist that the colour is due to the vibratory motion of ether, or, let us say, that colour may be explained by the electronic structure of matter; if, in fact, any explanation of the phenomenon of colour is given in terms of ether, light, or electricity, I, though deeply interested, am left profoundly unmoved in my original conviction. All that I meant and mean in asserting “gold” of the bar, is that there is some aspect of the metal which I apprehend under the modality of golden colour. The scientific explanation may extend my knowledge very considerably; but it cannot change, or rectify, however slightly, my first restrained assertion.

In order to make our thought even algebraically clear, we may state our case in symbols.

Let us call the property of the bar C' . Now when we say that the bar is golden, we mean that a given quality C' exists which is capable of giving me the colour-impression of gold. This *my* colour-impression we call C . I “know” C : I ignore the nature of C' . Any statement whatever as to the nature of C' , which we can only know in its results may therefore lead us into error. When the plain man thinks that the colour exists “*in*” the object, he identifies C' with C ; he professes to describe the nature of C' , and with the best intentions says what is untrue. So, too, when the physical scientist speaks of ether, light-waves, undulatory movement, electronic structure and the rest, he is on the track of the nature of C' , and may conceivably be wrong. But when I, as an epistemologist, make the statement “this bar has colour,” I only mean that there exists a quality C' , giving rise to my impression C .

My position, moreover, is impregnable. My restrained assertion only means that there exists an external stimulus which produces C in me. By the careful consideration of our own conscious states, we were forced, as we discovered in the fore-

going chapters, to conclude the existence of an external stimulus for sensation. **C** is a typical sensation : its external stimulus **I** style **C'**. Thus my statement that the bar has colour, is merely a reassertion of the principles which drove me to posit an external world. In a shortened form it is nothing more than a restatement of the old indubitable principle of causality. No changing conscious state, it will be remembered, can be to itself the full cause of its own transformation. **C'** is the extrinsic agent or stimulus which produces **C**.

And the same argument might be applied to each of my sense-impressions concerning the bar of gold, including the metallic "ring," the musical note, which gold on being struck is capable of emitting. I only mean that the gold has a particular quality—*what* that quality is, who shall say?—which, in certain circumstances, is grasped by me under the modality of sound. Doubtless, once again, it is all a question of vibration, and the undulatory movement of ether, which, playing upon my rather complicated organ of hearing, produces the "ring" of gold in my consciousness. All this may be true ; but it must be noted that my immediate assertion is far more restrained. It makes no pretence to understand the "arcana" of things, the "hidden" nature of the stimulus. It only reaffirms succinctly enough the fundamental principle of causality.

What do We Mean by Extension?

Of all my sense-impressions stimulated by the bar of gold or by any physical object, that of extension, which may be apprehended both by vision and touch, is one of the most important. Descartes, it will be remembered, found extension so inalienable from his thought of material things, as to regard it as the very essence of matter. Locke, following in the Cartesian tradition, singled out extension as a "real," "primary" quality. Extension, then, as a few moments' reflection will assure us, is an impression of singular importance.

Now when we say, as the result of visual and tactile sensa-

tions, that a thing like our bar of gold is extended, what do we mean? That it occupies space? No! certainly that cannot be our meaning unless we wish to find ourselves describing space in terms of extension, and extension in terms of space. The "occupation of space" is an easy phrase which, while being susceptible of a real philosophic meaning, should be avoided as an explanation of anything; above all, as an explanation of *extended* matter.

Space is nothing more than a real aspect of conglomerate matter. We think of matter as continuous—there are no unfilled "gaps" anywhere though the line may be very thinly held—and as extended. Now if we concentrate our thought on the *extension* of this vast continuous whole, and prescind altogether from the material *stuff*, whether it be solid, liquid gas, or ether that is extended, we arrive at our concept of space. As space, therefore, is nothing more than our concept of the extension of the whole material universe, it is impossible to explain extension in terms of space, or what comes to the same, in terms of itself.

When we say, then, that a body is extended, what do we mean? Simply that it is divisible into parts. It may be actually undivided. That matters little. If it is extended, we think at least that it is divisible, if not by mechanical, physical, or chemical means, at least in thought. The divisibility, moreover, can be verified as a rule by the actual work of division. Now this quality of divisibility, which I think of as actually belonging to things, is *translated* for me in one of two ways; *visually* under the form of dimensions, for every real thing (unlike the merely conceptual entities or dream-things of the geometers) that I perceive or imagine must always have two or three dimensions: *tactually* under the form of resistance to muscular effort, however slight.

When, therefore, I say that a thing is extended, I mean simply to assert that I have sense-impressions of vision and touch, which argue divisibility. Even in the case of an invisible gas, which is "unseen" and "unfelt," I argue by

analogy from the fact of its material existence that it is divisible. Its extension implies divisibility.

Once again I am only reasserting the principle of causality in a practical fashion. The sense-impressions, whether they be of dimensions or of resistance to pressure, must, as we discovered, be explained by some stimulus or agent outside consciousness. Moreover, as is obvious, the stimulus must be that aspect of the real object which renders it capable of division. "Capable of division" and divisibility come to the same in English. We may therefore rest assured that in applying our concept of extension to things, we are only making an immediate and legitimate inference from the observed facts of dimension or resistance. We are only recording an application of our undeniable principle of causality.

So far, then, we have considered only the sense-impressions which purport to give us some account of the qualities of things. If we guard ourselves against the crude realism of attributing all that we find in consciousness immediately and directly to the nature of the object, we find that the claim of these sense-impressions is beyond cavil or question. It rests entirely in the principle of causality, which we found after a long inquiry to be unassailable. Now let us turn to the concepts or general terms which claim to define the very nature of the perceived object.

The Applicability of Thoughts to Reality.

In presence of the metallic bar I find in consciousness the thought "gold". What, then, do we mean by "gold"? Only that "gold" is matter of a special metallic kind, which is distinguished by certain well-defined characteristics. It has a special brightness and lustre, is malleable, enjoys immunity from the action of ordinary acids and so on. Briefly, "gold" is matter which gives rise to certain sense-impressions, and which in addition is capable, in the proper circumstances, of producing in the observer a given set of experiences.

What, then, do we mean by "matter," on which we lean so

heavily in our conception of "gold"? Though the concept of "matter" has been obscured in a hundred ways, we would maintain that it is in reality simple. By matter we mean an unknown something which exists, which is extended, and which may have a multitude of variant qualities inhering in it. While thus serving as a natural subject of inherence for other entities, styled properties or qualities or what not, matter itself requires nothing further in which to inhere. It is of its nature to be self-supporting, while it supports and apparently produces these manifestations which are registered in consciousness as colour, form, extension, sound, and the rest. Directly of matter as such, of its *nature*, that is, apart from its manifestations, I pretend to have no cognizance whatever. I know something of its *manifestations*, of its typical *reactions*, of its general *behaviour*.

While, therefore, I have no direct and immediate knowledge of what matter *is*, I have a vast amount of information, registered in sensible experience, of what it *does*. However much I may love the adage "hoc solum scio quod nihil scio," I must concede that I possess the *indirect*, though valuable knowledge that matter is the something—otherwise unknown—which presents these manifestations and which behaves in this or that well-known way. Thus the nature of things is shown, however indirectly, in their manifestations: we know what things are, by what they do. The tree is known by its fruits; the character of a man by his actions; the species of a plant by its blossom and leaves; and the nature of matter by its properties of extension, attraction, and the rest.

Deep down it is a simple thought. By matter we mean just precisely the reality of the extra-mental world, the existence of which we were driven to concede by the plain facts of the case, and which we learn to know by the phenomena of sensation. By "gold," in defining which we were led to consider matter, we mean that reality which in addition to the generic properties of all matter enjoys a certain group of special characteristics.

Now in ascribing my concept "gold" to the metallic bar, am I justified?

Let us note in passing that in applying "gold" to the bar, I have in a condensed way applied my past experience to define a new event, and thus integrated the new with the old. In the past I have come in contact with a particular object which by convention is styled gold, and concerning which, it may be, I have read much in books on economics and chemistry. The result is a definite "consciousness of meaning" for the term gold. All that, however, is past. Now I come in presence of a new object, and following upon a fixed psychological law, I grasp the present experience in terms of the past. I say, this metallic bar is gold.

Can the application be false? A moment's reflection is enough to assure us that the whole process of application may be vitiated in one of two typical ways. Either (1) my concept "gold" may be seriously distorted through ignorance, and thus out of harmony with the standardized conventions of chemists, or (2) my concept "gold" may be perfectly exact, but it may be applied wrongly to some base metal that has been "tricked out" to look like gold. Thus, either my concept or its application may be false. Obviously the question of concepts, which purport to define the nature of things, is not so simple as that of the sensorial phenomena.

To solve the difficulty, we can only trust once again to the plain facts. They must carry our vessel, whithersoever they will. Our only duty is to hold the sail so that it may catch the wind, and to hope, as we speed ahead, that we may find some hospitable shore.

Let us then consider each of two unpleasant possibilities of error which occur all too frequently in ordinary life.

The First Source of Error—the Concept Itself.

First, let us suppose the concept itself of gold is erroneous. Let it be inadequate, inaccurate, or wholly false. How is it to be tested or corrected? We shall see in a moment that the

test is experience. I may, for instance, imagine that gold is not an element, but an amalgam like brass and bronze of two other metals; or I may have a theory that gold is only one of the other metals "transmuted". Possibly I may think that it can be dissolved in strong sulphuric acid, or that it yields to the "action of the air" like silver which dons a coat of black on exposure. All this information is spurious, as those who are conversant with the study of metals know well.

Gold is not an amalgam: it is an element. Nor is there any evidence to show that it can be obtained by the transmutation of any other metal. It will not dissolve in the strongest sulphuric acid, nor does it tarnish on exposure to the air. All these statements can be checked one by one by experiment, which is only a highly organized form of sensible experience. Thus my concept may as an intellectual representation be vitiated through and through, out of touch with the phenomena of experience.

And if this is true for "gold," what can be said of other concepts? What inaccuracies might be discovered, could we only probe our minds, in concepts like radium, electricity, mastodon, empire, confederacy, state, religion, love, force, indeed in all those concepts that are not thrust upon us frequently in ordinary life! In such thoughts,

What flaws may lurk,
What strain o' the stuff, what warpings past the aim.

The Second Source of Error—the Faulty Application.

Secondly, my application of a "proper" concept may be at fault. I may think that brass coated with gold-leaf is gold, or I may make the same mistake in handling some of the beautiful Indian amalgams. Here again, we are in presence of almost illimitable possibilities of error. I may take a crystal for a diamond, a blue bead for a turquoise, a painted plaster statue for one of bronze, a wax-work figure for a living person, a "drip-drip" of water for a footfall, an inferior sparkling wine for champagne, an artificial scent for the perfume of

violets. Often enough we detect our mistake, and correct the faulty application. At the same time we are left musing, wondering how often these counterfeit judgments, dealing not with turquoises and diamonds but with things of importance, may, all undetected, pass into currency as coin of the realm. It is a sombre thought, and as we realize its awful possibilities we feel, for a moment, as if we were adrift on the high seas without chart or compass, in the darkness of a night, unbroken by starlight or flame.

Yet, strangely enough, in the very act of tracking these two great sources of error, we have, after all, found the sources which must be choked. As so often happens, by looking our difficulty straight in the face, we have found its solution.

The Remedy Against the Two Errors.

First of all my concept, let us say of "gold," may be erroneous. What, to be brief, are the facts of the case? There is an existent something, which always gives rise to the same sensible experience, and which always behaves in the same way, reacting or not reacting to the same stimuli with unflinching regularity. In our language, by long-standing convention, this something is called "gold". If my concept, then, is faulty, I am out of touch with our English-speaking convention, and what is far worse, out of harmony with sensible experience.

If I think that gold is soluble in sulphuric acid, I can at least make the attempt and . . . record my failure. And so for all other possible deviations from the standardized concept "gold". Each deviation may be checked by suitable experiment, or by more casual perception. Once checked, the error may be eliminated, and my concept "gold" may be made to flush with the facts. Indeed the tracking of error is a luminously simple if somewhat laborious process. Gold, or for that matter any general term like tree, flower, man, animal, student, king, purports to define a nature. Any one of the terms represents, intellectually, a being or nature which gives

rise to this or that group of marks or manifestations. As the manifestations are registered in sensible experience, by eye or ear or taste or some other typical sensation, we may test the accuracy of our intellectual concept by our sense-perceptions.

By organizing or integrating our experience, we can thus test the validity of the concept, as the intellectual representative of any particular nature or being. If, for instance, I think that Rhine wines have the aromatic flavour of the Mosel variety, my concept of Rhine wine is at fault. To discover the error, I have only to sample the many "Hocks"—it is well not to be too precipitate in the cause of scientific accuracy!—which will be found to yield no such "bouquet". Result: possibly a bad head, but that is a mere physiological concomitant. Epistemologically, the result is a rectification of the first concept. *In short, there is no imaginable error in any concept—clearly we speak of a concept taken as an intellectual representation—which cannot be eliminated or rectified by a patient collection of sense-data.*

The second great source of inaccuracy or falsehood, lay, it will be remembered, in the application of a "proper," "just" concept to something which it did not represent. Thus, if I say that this silver-gilt cup is "gold," I fall into this fallacy. Yet once again the error can be excluded by a careful use of sensorial observation. I say that the metal of the cup is gold. So far all is crisp and definite. What do I mean by "gold"? Simply a metal which, to revert to our former algebraical setting, enjoys the properties P'Q'R'S'. These properties P'Q'R'S' are translated in my consciousness under the sensible experiences which I style **P, Q, R, S**. Where in presence of a metal I find **P, Q, R, S**, in my consciousness, I infer P'Q'R'S' by the old law of causality, and then immediately think "gold".

Moreover, by taking sufficient care, I can assure myself that all the characteristic properties of the metal are included in the group P'Q'R'S', and that nothing, which does not

appertain to gold, has strayed into the list. Nothing could be more simple. Now I say that the metal of the silver-gilt cup is "gold". If challenged, I can put my judgment to the test, and see, as a dealer in precious metals does habitually, if it is capable of giving me the sense-data **P, Q, R, S**. If it does, then the cup *is* made of gold. If one of the reactions breaks down; if, for instance, it begins to dissolve or tarnish under the action of an ordinary acid—then I know that the cup is not gold. In either case, I can be certain of my judgment, just as certain, we may suggest, as of the principle of causality which on careful analysis turned out to be indubitable and undeniable. Every trace of error can thus, by dint of a little care, be successfully eliminated, leaving no trace of uncertainty in my judgment.

Our summary, with regard to concepts, is hopeful. Of themselves, considered just as conscious processes, they can be neither valid nor invalid. Taken as representatives of given objects, they may be even wildly wrong. Further, when applied to objects with which they have no natural connection, the resultant judgment may be false. In either case the error can be eliminated. Concepts, in other words, may, if we take sufficient care, be enabled to support their claim: they may, and not infrequently do, actually define the nature of things.

Symbolic Summary of Our Findings.

Indeed, our findings in this chapter may be all expressed in the crisp algebraical way. In presence of a particular object, we find our consciousness "filled" with the sense-impressions **P, Q, R, S, T**, of colour, size, shape, lustre, and what not. At the same time we have a concept of the nature of the object. The concept defines the object as a being, no more, and no less, which gives rise in us to **P, Q, R, S, T**, and which, in addition, perhaps, is capable in suitable circumstances of stimulating **U, V, W**, in consciousness. Our intellect, that is, grasps being—who was it who said that intellect was the

“gaoler of being”?—as “that which” gives rise in me to **P, Q, R, S, T, U, V, W.**

To say that the object itself enjoys the properties **P, Q, R,** etc., would be a gratuitous and even naïf assertion. All that we can legitimately infer is that **P, Q, R,** etc., in us spring from qualities in the thing, which we style **P'Q'R',** etc. The thing itself, whatever it be, is a being which possesses the properties **P'Q'R',** etc. **P'** is the quality which is translated for me as **P**; **Q'**, the quality, whatever it be, which is translated for me as **Q**, and so on. Briefly, we think of the object as a something—a being, or essence or nature—which owing to properties **P'Q'R'S',** etc., is capable of stimulating the impressions **P, Q, R, S,** etc., in my consciousness. We think of things, in other words, as the indubitable principle of causality shows that we must.

In spite, therefore, of many clinging difficulties, we can see plainly that the simple data of sense-impressions and concepts may be used to define and describe the nature of things. Though the nature of these extra-mental realities, as they *are* “in and for themselves” must remain forever unknown, we yet possess a vast amount of accurate information as to what they *do*, and hence, an equal amount of indirect knowledge of what they are. Let us, now, turn to consider a few of the difficulties which were given so formidable an expression in our first chapter.

The Colour Difficulty.

I. And first, let us take up the old difficulty about colour. The same object will surely give rise to different colour-impressions in varying lights or at different moments, changing it may be from crimson to mauve. “Which *is* it,” cries the critic, “which *is* it, crimson or mauve?”

“Which is it?” we reply, “Why! in one sense both; in another sense neither”. If the critic means which is the colour in consciousness, we can only say, following the plain facts, that it is both crimson and mauve. If he means, which

is the colour of the object, may we remind him that colour does not and cannot exist in objects? Colour, it will be remembered, is the quality **C** in consciousness, which argues the existence of a quality—otherwise unknown—called **C'** in the object. To identify **C** and **C'** is the age-long error of plain realists.

The simple truth is far more obvious. A given object has a quality **C'**, which in different circumstances is capable of being translated for me, either as crimson or mauve.

“Excellent,” interjects the critic, “then, as everything can be made to run through a whole rainbow of colours, you will, of course, give up the inveterate realist habit of referring to the ‘characteristic colour’ of anything. If a thing can be ‘translated’ as either crimson or mauve, why single out either colour to the exclusion of the other?”

The difficulty, we would reply, arises from neglecting half the relevant facts. A given object will appear, let us say, crimson by daylight, and mauve by the light of an electric lamp. The only proper description of our colour-impressions is to say, by inserting all the relevant conditions, that the object is crimson by day, and mauve by electric light of a certain candle-power. For the sake of brevity, we standardize the ordinary white-light of day, or that particular light in which the given object is most commonly seen. It is no more than a practical convention to secure the maximum of uniformity. Thus, when we speak of a “scarlet” geranium, we refer to our colour-vision in the sunlight.

Colour, then, is a function of four variables—or, to use less technical language, colour depends upon four elements or factors, each of which may change. The plain realist concentrating on one variable, the quality in the object, forgets the other three. The first variable is the *quality C'* in the object, and the other three are *the light* in which the object is seen, the *medium* (air or glass, or water) which separates me from the object, and lastly, *my own sensory process* including eye, nerve, and brain-lobes, which, taken together, form the physiological instrument of vision.

Obviously, a change in any one of these four variables may induce a change in my colour-impression. If the quality *C'* proved unsteady, the whole colour-cycle of possible impressions, would, in all probability, vary. If the light alone changes, while all the other variables remain constant, we may receive the most widely divergent colour-impressions: witness the difference in colour by day and by lamplight. Or again, if the medium alone of all the four variables changes, my vision of colour may be strangely different. When the medium is air, a coloured object may give the impression of crimson: when the medium is glass and air, the impression may be no longer crimson but brick-red or orange. Lastly, a change in the physiological instrument may bring about any change from dimness of colour to partial colour-blindness, or to total inability to perceive any colour.

Now, as a matter of fact, most of our differences in colour-vision can be explained fully by changes in the light, the medium, or the eye. It is well, therefore, to eliminate all these possibilities before turning to accuse the object of having changed its quality *C'*. If, however, after judicious elimination of all other possible sources of change, we are still face to face with a colour difference, we must, as we actually do in the case of autumn leaves, assume that *C'* itself has changed. In any case, the actual, undoubted differences in colour-vision, whether due to the nature of the light, the medium, the perceiving organ, or to some change in the object itself, can all be explained satisfactorily. There is nothing in the fact of colour, therefore, to imperil the validity of our considered judgments. Those judgments, if sufficiently restrained, follow immediately from the first epistemological application of the principle of causality.

The Shape Difficulty.

II. From the consideration of colour, we pass to the shape of things. The old dictum of the sceptics will serve as an excellent example. "All that we have power to see is the straight

rod bent in the pool." What, then, are the facts? I have a rod which gives me the impression of straightness. I plunge it partly in water, and at the point of incidence, where the air and water meet, the rod looks bent. Which is it, bent or straight?

Let us follow our hopeful method in treating colour. The shape of things is a function of at least four variables; of our visual apparatus; of the medium in and through which the object is seen; of the position of the percipient which gives the angle of vision: and lastly, of some actual quality in the object. A change in any one of these eminently variable factors will induce a change in my impression of shape. We may give a brief instance of each variation.

I, who am used to viewing things with two eyes, that is, to binocular vision, close one eye and look at a distant object. When looked at with two eyes, the parts seem to project in varying degrees of relief. When looked at with one eye, the object appears "flattened," wanting in relief, in two rather than three dimensions. Thus a slight change in my visual apparatus has led to a considerable modification of my shape-impression. For a change of medium, perhaps, our bent rod is the best instance. If the medium be changed from air alone to air and water, a rod, formerly straight, seems bent. An instance of the wonderful changes that can be wrought in our shape-impressions of any object by a change in the angle of vision was given in our first chapter. We have only to walk round a table to see how a change in position and consequent angle of vision will give rise to startling variations in the lines and angles of my table's surface. Lastly, there is some quality inhering in things which is translated for me under the impression of shape, whether it be yielded by sight or touch. If that quality changes, that is, if the limits of its extension change, as in the case of a growing leaf, the whole shape-impression may differ.

We might indeed add another variable, to wit, the intensity and colour of the light, differences in which can certainly induce changes in the apparent form of things. We prefer, however,

to confine our attention to the four typical and more usual variables which we have cited.

Now one result of extraordinary importance from the epistemological "angle of vision" follows at once from these observations. No record of the shape of anything can hope to be accurate, unless all the conditions of observation are stated in parentheses. We ought, strictly speaking, to state the condition of our visual apparatus, the nature of the intervening media, the point of observation which determines the angles of vision, the intensity and colour of the light, and, in addition, any other relevant variables.

But once again life is short, and we have no wish to give this scientific precision to our impressions. We say that our rod is straight, because we see it more frequently in one medium: we standardize the normal conditions which yield at least a measure of uniformity. If, however, for the sake of accuracy, we mentioned the varying conditions in parentheses, we should see at once that the "straight, bent rod" difficulty was due to our ordinary "slipshod" way of talking. The rod, of course, gives rise in different circumstances to two different impressions. The quality of the rod, the S' which gives rise to my impression S , remain unchanged: only the media have varied.

Before leaving the question of shape, we may as well revert to the surface of the walnut desk which presented us with such a host of difficulties in our first chapter. From a dozen different points of view, it yields a dozen different shape-impressions, and never, by any chance seems, what I actually call it, oblong. Which of all these divergent impressions gives the *real* shape of my table, and above all, why?

This is a type of all the questions which we repeated often enough in our first chapter, when we were bent on loosening our thoughts from their ultra-realist, dogmatic moorings. Now that we have "set" the problem, the very question loses its aspect of incisiveness, not to speak of its power of impaling one on the horns of a dilemma.

“The *real* shape?” we query, “but the shape of things is an impression found in consciousness, a function of four or five variables. It would be nothing short of a miracle, therefore, if a change in any one of those variables, such, for instance, as the angle of vision, did not result in a change of impression. The one abiding quality of the table-top, which we style *S'* may thus give rise to a whole bevy of different *S's* or shape-impression in my consciousness.”

In fact the whole difficulty vanishes, once we establish the difference between *S'* and *S*, and see that the same *S'* ought not to produce the same *S*, if the conditions of light medium or angle of vision differ. Like the colour difficulty, the whole problem of the “real” shape is only the outcome of our realist prejudices.

“But why call the surface oblong,” the reader may ask, “when it never yields that impression?” The facts, we reply, are simple. If we cut a piece of paper to flush with the two sides at an angle-point, and if we find that the same piece of paper exactly measures the remaining three angles, we say, not unnaturally, that they are all equal. Each is just one-fourth of the whole angle made by a line revolving about itself, or as we say more easily a right angle. In addition, the opposite sides of the table-surface on being measured prove equal in length, and by convention we style such a figure an oblong. As a matter of fact if one angle is right, and the opposite sides are equal and parallel, the figure is an oblong.

Habitually, therefore, we glance down at one angle and look at the sides. If the angle seems to be one of 90° , and if the opposite sides look parallel, we say, in spite of a hundred divergent impressions, that the surface is oblong. We may be right or wrong in our surmise. In any case this is our actual reason for calling the surface oblong, though the thing taken as a whole never looks oblong in all its parts, so to say, at one and the same time. If our surmise be untrue, the paper-test, or a lamina of wood cut to flush with the lines at the angle points will reveal the inaccuracy. Thus the differ-

ences in our shape-impressions of one object present no insuperable difficulties to the epistemologist who discusses our knowledge in terms of the Principle of Causality. That principle is, in very truth, a searchlight, which reveals not only the existence of the great world that lies outside us, but also our available knowledge of its nature.

The Difficulty of Illusions.

III. A third leading difficulty of a wholly different variety seems to arise from the existence of optical illusions. At first sight they look like some "thin-end-of-the-wedge" argument against the validity of knowledge, or at least against the trustworthiness of our visual sensations, upon which we lean so heavily in ordinary life. If we can sometimes be deceived, we argue musingly, why not always? What is there in the nature of things, in other words, to delimit the sphere of these visual anomalies?

By way of answer, we had best choose a few examples. Illusions, then, may be roughly classified under two main headings. They either yield a "false impression" of something actually present, or else lead us to admit the presence of something which has no real existence. Thus in the distance a small half-trampled bush may look like a goat, or a portion of a fallen tree may in broad daylight look like a peacock at rest; or again, lines which are really parallel may, by a careful insertion of cross strokes, yield an impression of convergence. These line illusions in all their bewildering variety have been studied at great length by recent psychologists, and if additional cases be required, all of us have illusions frequently enough as to the nature of distant objects. Which of us, for instance, has not construed a towel flung over the arm of a chair into a crouching figure? So much for the first type of illusion.

The second type is no less clear. In certain conditions of twilight, or of dimness of vision, coming either from within or without, we may be quite convinced that we are in presence

of a person, an animal, or thing of some kind, where there is in reality nothing more than a curiously contrasted play of light and darkness. Which of us has not started in the dusk at a curious, unexpected ray of light, the shadow of which has somehow been turned into a "man"?

Illusions, then, are frequent enough in ordinary life. We must now ask if they tend to discount the value of our visual perceptions.

If a distant tree-stump is thought to be a sleepy peacock, obviously my judgment is hasty and false. The sense-impression no doubt is vague in detail and outline. The error, however, lies not in the visual image as such, but in the judgment, in my rapid identification of the stimulating object of my sense-impression with a peacock. My eye will not "carry" with any degree of precision beyond a certain limited distance, neither will my visual image be sharp in failing light, nor in the presence of unfavourable environing circumstances.

Now, if my visual impression is to be not accurate—there can be no question of the inaccuracy of these simple sense-data—but sufficiently sharp and well-defined to form the basis of a valid judgment, I must fulfil the conditions of clear vision. These conditions, set out by the psychologists, involve a maximum of distance, a minimum of light, the absence of defect in the organ of vision, and in addition the absence of disturbing phenomena by way of shadows, unsuitable backgrounds and screens near the object. Granted the fulfilment of these conditions, the vision will be clear, and the consecutive judgment in all probability valid. As I approach, in other words, I shall identify my "peacock" as a tree-stump.

In any case, whatever be the judgment, my visual sensation, however ill-defined and "woolly," is beyond all reproach—free from the slightest trace of error. The illusion, if such there be, lies not in the sensation, but in the judgment which I pass, forgetful of the indispensable conditions of valid knowledge. The same type of solution may be offered of the many

geometrical illusions. A paper which I hold in my hand is covered with lines which, though equal, are made by the addition of suitable "trick" strokes to appear strangely different in length. Similarly, by the play of cross strokes, curved lines can be made to "look" straight, or parallel lines to seem convergent.

Now, however much I may rub my eyes to assure myself that the illusion is none of my own making, and that the "error" lies *in* the picture, the fact remains that the visual impressions are free from all reproach. If I judge that curved lines are straight, the error lies in my judgment, which is false because one of the necessary conditions of validity has not been fulfilled. For a clear image to be obtained, there must be no disturbing phenomena like shadows, strokes, or other sources of trickery. To judge the straightness, parallelism, or equality of lines, in other words, we must see that the figures are free from concomitant disturbing factors.

Briefly these illusions only suggest that there are stringent conditions for the validity of all our judgments. They do not in the least tell against the validity of our considered judgments, if care be taken to fulfil the necessary conditions of sharp perception, to mark defects, to make allowances, to follow the facts and to avoid precipitation.

The second type of illusion is more akin to a momentary hallucination in which, owing to a play of light and shadow, I imagine the presence of somebody or something. Such phenomena or rather such judgments present no difficulty in our study. Where they are found, their illusory character stands revealed by the "strong right arm" argument, beloved of all plain men. A "somebody" or "something" ought to be capable of producing in us a tactile as well as a visual impression. If therefore the supposed "somebody" yields no resistance to the stealthy pressure of my fingers, or the more vigorous use of my foot, I can readily convince myself that I have been deceived in the failing light.¹

¹ Huxley, it will be remembered, advised a widow lady, who against her better judgment seemed to "see" her husband in his arm-chair, to

Even at the risk of repetition may we be allowed to enforce our previous findings? The error in this case once again lies not in the light-impression, but in the judgment that I make of the presence of something. It may even happen that I feel incapable of making any other judgment. That matters little. I have judged, when one of the "sine qua non" conditions of valid judgment, to wit, the presence of sufficient light was absent. I can only blame myself for being precipitate. The conditions of valid knowledge turn out, on analysis, to be both numerous and stringent. If they are fulfilled, then our knowledge of things is as secure as the Principle of Causality.

The Difficulty of Hallucinations.

IV. For the sake of completeness, a word about hallucination may be welcome. By an hallucination we mean a conviction of the presence of something which has no real extra-mental existence. Thus a person in delirium may "see" a tiger springing from the foot of his bed, or a mentally unbalanced person may hear imaginary voices which reiterate the same abusive observations with strange persistence. Associated with conditions of insanity, delirium, or high fever, these occurrences are obviously pathological. One person in an abnormal state of health "sees" or "hears" something which a number of normal, healthy people cannot see or hear. Once again one of the indispensable conditions of valid judgments is absent, to wit, the normal functioning of the nervous system which controls the organs of vision and hearing.

Let us take the case of the patient in delirium. Owing to undue nervous excitation, the ordinary imagery which passes quietly through our consciousness, almost unheeded, becomes in his case highly accentuated. Instead, therefore, of his
take her courage in both hands and to sit in that arm-chair herself. The absence of pressure, he thought, would restore the normal condition of consciousness.

having "healthy" schematic image of a tiger, he is presented with a picture as vivid as that of a big-game hunter in the act of shooting his quarry. His mind, loosened in the delirious state from all sober conditions and laws, projects the tiger into space, and then lies shuddering at the wild thing of its own making. From its very inception the judgment, not to say the whole judgment-process, is vitiated by the presence of a pathological condition of the nerve centres. Obviously, therefore, hallucinations present no lasting difficulty to the philosopher bent on establishing the possible validity of knowledge. Conditions, positive and negative, must be fulfilled: that is all.

With the solution of this difficulty, we may close our review of the facts.

Summary and Conclusion.

In the foregoing pages we have tried to lead the reader through the ways of a labyrinth, for this enthralling question of the validity of knowledge can be likened to nothing else unless it be to a dense, trackless forest. As the result of a careful, analytic consideration of facts, difficulties, and problems, we have established the possibility of an accurate application of our sensations and concepts to the world that lies outside us. The pitfalls and straggling paths that lead nowhere, as we have seen, are many—so many indeed that our solution cannot be deemed unduly sanguine. We have shown that if care and patience be expended in collecting, sifting, "verifying" the data of our experience, our knowledge will be valid. At the same time, it follows that any particular element of knowledge is open to question, until we have examined its foundations in our sensible experience, and eliminated therefrom every vestige or possibility of error.

There is no air of ease or triumph in such a philosophy; no consecration of "simple solutions" or first impressions. It rather suggests that the way of the philosopher is like the rough, arduous ascent of a mountain, whose path winds back again and again on its own tracks as it slowly approaches the

summit. The mountain air is invigorating, a veritable "haustus divini aëris," and the hope beats high that the vision from the crest of uplands will reward the climber's effort. In our case that hope is fulfilled. In spite of many stringent conditions, and in spite of the almost unlimited possibilities of deviation, we see plainly that we can have valid knowledge of the nature and qualities of things.

Neither of nature nor of quality can our knowledge be immediate or direct. We know the qualities of things indirectly by their effects on our consciousness, and knowing these qualities, we have some further indirect knowledge of the nature which supports them, and of which they are the con-natural manifestations. *Reality is thus grasped by the mind in a way that is proper to itself.* From first to last, as we have seen, that way is no more than a restrained assertion of the indefectible Principle of Causality. We know the causes in the effects, and the efforts are immediately present to us in the elementary data of sensations and purified concepts.

CHAPTER IX.

THE NATURE AND SCOPE OF OUR KNOWLEDGE.

SINCE we fixed the scope of our inquiry, and the critical nature of our method, our thought has moved from point to point under the impulse of its own inherent dialectic. While making no assumption, we have striven to forget no relevant fact or difficulty in our effort to provide a lasting philosophic solution of the five questions with which we started. The first, it will be remembered, has already been answered in no uncertain manner. We can both know and prove that there exists outside us a real world of persons and things. The second question—Can we know the nature of that world, not only *that* it is, but *what* it is?—has also, in the last chapter, received a decided, affirmative reply. We can have, not immediate and direct, but valuable indirect knowledge both of the nature and qualities of surrounding things—sufficient both to distinguish and to define them. Moreover, in answer to the third question, we have shown the possibility of discerning valid from invalid knowledge. Valid knowledge is gained, when all the necessary conditions of “just” perception have been fulfilled, by a patient, restrained application of the causal principle to the objects of our thought. There remain, then, only the two other leading problems dealing with the criteria and nature of certitude and truth, which we shall discuss in our next chapter.

For the moment we shall turn aside to consider the nature and scope of our knowledge. It is not enough to know that our cognitive processes can be validly applied to the outside world. We must inquire how far the domain of valid knowledge extends. Where are the boundaries fixed both for men

in general and for single individuals? When can our reason descry the sign that further trespass is liable to the penalty of incoherence? Again, what is it, deep down, psychologically, which makes us capable of knowing anything and which at the same time fixes the frontiers beyond which we may not pass? What, in other words, is the intrinsic law governing the scope of our knowledge? A solution of these questions is clearly an urgent necessity.

Our Knowledge Sense-Bound.

I. In our seventh chapter we discussed the leading characteristics of our knowledge, its two-fold character and distinctive operations. By our intellectual operations, which are irreducible to any sensation, imagery, or sensorial complex, we grasp the being of things—the existence of an “other”—the nature of which we conceive in terms of the properties, activities, reactions which are registered in sense-perception. Our intellect by a combination of the concept and the judgment-process becomes aware of the nature of things in terms of their qualities, which qualities are translated for us in our sensorial impressions. The stimulus of both sensation and intelligence is the object on which our attention is fixed. But there is this one great difference between our cognitive processes: whereas the object stimulates the sense-impression immediately, without any intermediary, it only stimulates the intellectual process, mediately, by means of the sense-impressions. Obviously, therefore, our intellectual knowledge, while being separate and distinct, leans heavily upon its sensorial companion.

Our sensations, indeed, are the foundation, the stimulus, the starting-point of all our psychological events, and of all our intellectual operations. Without them the intellect would remain unstimulated, reduced to sterility. Without our sense-impressions, we could enjoy no grasp of the qualities or activities of things, no knowledge of their distinguishing characteristics. Even the thought of the existence of things—the fact *that* they are, apart from *what* they are—does not strike us until some

one or other of our sensations has been aroused by their presence. *Our knowledge, therefore, from first to last is sense-bound.*

There is no knowledge of any existence which does not depend upon sense-perception for its initiation. There is no knowledge of any essence or nature, which can be expressed other than by the presence or absence of those qualities which we perceive through the senses. All that we know, as has been said, comes to us through the five tiny avenues of the senses. One conclusion stands out, therefore, with uncompromising clearness from this first brief synthesis of our findings. *We can only have positive knowledge of the world of persons and things ; of natures which are capable of eliciting sensations within us ; of things, that is, which are extended—in a word, of the great Material Universe.* To use a well-known phrase, our *positive* knowledge is bounded by the limits of "actual or possible experience". Our sensations, and therefore our positive thoughts, which together form the corpus of our positive knowledge, are chained to matter, to things which we can push and pull and weigh.

Pursuing our theme it is clear that we could never by any chance have a *sensation* of what was wholly immaterial: its presence would necessarily pass as unperceived to our senses, as the currents that play their part in the depths of the sea. Moreover, we can never even *imagine* what the immaterial might be, for imagination follows in the trail of sense-perception, being nothing but its echo in consciousness. We are thus bound by sense and imagination, to the things of space and time, to material bodies which attract one another and which are extended.

But, let it be observed, we can *conceive*, that is, by an intellectual and not a sensorial or imaginative operation, we can think the immaterial, just as we habitually think of God and the Spirit world. There is nothing to prevent our intellect from conceiving a being—intellect is the "gaoler" of being—which is totally unlike the material things, of which we have positive knowledge. Such conceptions of the immaterial

world, of God and Spirits, may even be integrated into a body of knowledge, as philosophers from the beginning have endeavoured to show in discussing the existence and nature of God.

All such knowledge, however, is of a very special kind, which separates it at once from our knowledge of the material world in which we feel "at home". There is no special science properly so called of the immaterial world, of what cannot be seen or heard or felt; no knowledge that is positive, immediate or direct. That knowledge, however valid, is usually negative, and sometimes, as in the case of God, analogical, but never by any chance positive.

Let us consider a few instances to elucidate this striking limitation of our sense-bound knowledge. I think of a spirit, let us say, as an *immaterial*, *inextended* being. I think of God as *infinite* or *immense*. Every one of the terms is negative. I have taken my ordinary positive knowledge, derived from the world of things which will offer resistance to my muscular effort, and seen its inapplicability to these immaterial objects of my thought. This inapplicability is recorded and asserted by the formation of the negative terms, immaterial, infinite, and the rest. There is no trace of any positive content in any of these terms, though by constant use they grow to assume a positive aspect—what could look more positive than the term "spirit"?—and sometimes if used unanalytically a quasi-positive meaning.

All the things of which we have positive knowledge are finite, bounded from without, that is, and intrinsically limited. God, we think, indeed we can prove, is not as the things that we know: He is *boundless* and *unlimited*. We then assert the complete difference between God and the things of space and time, by the use of a purely negative term,—infinite. For the rest when our knowledge of the immaterial world is not wholly and purely negative it is analogical. There is some analogue between the intelligence of men and the intelligence of God, between the activity of men and the activity

of God. That is to say, between the being and intelligence of a Spirit, and the being and intelligence of human persons, we find some trace of resemblance, some faint analogy, while at the same time we affirm, in a whole series of negative terms, a multitude of clashing differences both in nature and mode of being.

It is scarcely necessary to add that this negative and analogical knowledge is true knowledge of the utmost value, though it lacks the sensible content of our ordinary experience. It is our only guide in those regions which would otherwise be as remote from our thought as from our senses; as undreamt of as an undiscovered continent or an unknown planet. But the knowledge which is most characteristic of our nature is marked with the unmistakable seal of matter. We are made to understand positively if not exhaustively, things that are coloured and divisible; things that we can push and pull, and persons who share all these characteristics of matter, in addition to their own distinctive qualities.

It is ever the same story. Ether, which we cannot see, nor hear nor feel, which, in addition, cannot be weighed, is yet thought to exist in the molecular interstices of matter, and in the interstellar spaces. What do we say of it? Simply that it is *imponderable*—and for the rest, suggest some faint analogy with the lighter gases.

In the foregoing paragraphs, we have traced one great frontier of our knowledge. Of beings that are capable of eliciting sense-impressions in our consciousness, we can have positive knowledge, though it need be neither immediate nor direct. Of all other beings, our knowledge can never be immediate, never direct, never positive. It can only be negative or analogical.

Can the Individual Share the Experience of the Race?

II. Each individual person, then, stands facing this vast complex world of persons and things, which he strives to embrace in his system of positive knowledge. Even of the invisible world, his knowledge may be extensive, though never

positive. But the power of any single individual to collect, sift, and verify the multitudinous facts of our sensible experience and thus to build a well-founded, solid system of knowledge is strangely limited. We naturally ask, therefore, how far we can extend our knowledge, by incorporating the thought or experience of others? How far can we profit by the experience of the human race, and of our contemporaries? How far can we extend the horizon of our own centre of experience by communion with other minds? How much can we learn and how much can we teach?

Can We Enter into the Thought of Others?

First, let us deal with the *thought* of others. We shall consider their *experience* later. To begin with, there is no direct means of communion between mind and mind. Telepathy is at least unusual and always inexplicable. Intellect communicates with intellect by means of conventional signs or sounds, each appealing indirectly to the other through the medium of sense. We may sometimes dream that we "feel" what is going on in the mind of another; as though by long acquaintance we had grown to dispense with the medium of sense, and to penetrate the living mind. On second thoughts, however, we detect the medium of sense clearly enough. Either there will have been a thoughtful silence, which we have learnt to associate with some mood of depression or resentment, or else we may have made a rapid inference from a curl of the lip, the raising of an eyebrow, the set of mouth and jaw, the light buoyant footfall, the whole poise of the body, "touch of hand, turn of head," or what not.

Thus if our thought of what proceeds in the mind of another be not pure conjecture, either an inference from past experience, or a shot in the dark, we can always point to some sensible fact, some sign or sound, which served as a means of communication. In our many languages we are provided with a standardized conventional group of sounds, by which we can sometimes reveal our thoughts.

Let us suppose, then, that a man delivers himself of his knowledge, by the use of an unequivocal series of sounds. What then? Do I, who listen attentively, "enter" immediately into his thought, or participate in his knowledge? No! the law of causality is obeyed, and I register a corresponding series of auditive impressions—no more. If I understand the language, and if I am capable, owing to education or experience, of *reproducing* the thought, I may form certain concepts and link them, like the speaker, in judgments and reasonings. As the result of this intellectual effort, which is by no means a necessary accompaniment of the sound impression, I may indeed think the same thought as the speaker. But I cannot be said for a passing moment to "enter" into his mind, or to participate in his knowledge. There is no such thing as thought transference; the thought is mine; the knowledge is mine, produced by my own steady intellectual effort, though it may indeed have been stimulated by words expressing the thought of another. Before I know what another person is thinking I must produce the thought myself. What if it be a *reproduction* for an onlooker? It is a production for me. Before, then, I can widen my own experience by incorporating the thoughts of others, I must think that thought for myself, just as if it had never been thought before. Thus we can only "enter" into the minds of others, by thinking the same thoughts ourselves. Briefly, we do not "enter" into their minds at all: we develop our own.

One additional fact is of importance. The unity and synthesis given by one mind to its own thoughts, will undoubtedly render the work of reproduction by another mind easier and swifter. The fact remains that all such thought, however clear, however concise, is no more than a stimulus from without, soliciting our minds to develop themselves from within. If the flight of the mind that communicates its thought is beyond our range, if the language lacks felicity of expression, or is obscure, or if we who listen do not understand the significance of the words and expressions, we shall inevitably fail to develop a similar train of ideas.

Knowledge is not, strictly speaking, communicated: it is stimulated. The thought that has been generated in one mind, is generated once again in another, owing to some fundamental similarity in power and experience between the two. Thus I can and do widen my knowledge by incorporating the thoughts and judgments of others, provided I have sufficient power and experience to generate those thoughts and judgments for myself.

Can We Enter into the Experience of Others?

III. The term "experience" drives us further in our inquiry. Apart altogether from intellectual knowledge, how far can we participate in the experience of others? How far can I, as an isolated individual, understand the experience, the sense-impressions, the feelings, the emotions, the desires and delights, of my fellows? My experience is necessarily slight, bounded by a hundred fretful conditions of place, time, environment, birth, education, and the rest. The experience of the human race must be vast. How far can I, an individual "strong in solid singleness," break down my confining barriers and enter into this great patrimony? Could any question be of greater human interest?

In order to think concretely, let us take a few examples:—

1. I, who have never travelled outside Europe, read, deeply interested, the account of an Arctic expedition. I marvel at the heroism of the men who could endure such intense cold and hardship. I almost shiver at the thought of a temperature of -40° .

2. I, a man, watch a mother at play with her child. I observe the affection, joy, and care; and turn, it may be, to muse about the different loves that can stir the human soul.

3. A friend reports the death of his brother. I notice his grief, and sympathize keenly.

How many of these experiences can I really understand? And what is the principle or law at work, which determines the extent of my vicarious experience? Let us take the cases in order.

1. Though deeply interested in Arctic exploration, I have never had the good fortune to leave Europe. On reading the graphic account of some Polar expedition, I imagine the numbing effect of some 40° of frost. In fact, I, who have never known more than a few degrees, shiver at the thought of 40° . Now I may shiver as much as I like: the fact remains that I am incapable of understanding or realizing what 40° of frost can mean. I may, of course, recall cold weather, and then proceed with chattering teeth, in imagination, to intensify that cold until it has reached the Arctic limit. *All that is fancy, and between fancy and experience there is fixed a gulf, if not a chasm.*

How often we fancy, with no little complacency, what an experience will be like. The experience itself is recorded later, and all seems strangely different. How many men, for instance, after reading for two years the accounts of the furious artillery bombardments on the Western Front, with all their graphic details of uproar, crash, and illumination, have said simply, on finding themselves in the trenches, that they had no idea of the wildness or sublimity of it all? Between fancy and experience there is fixed a gulf. In the same way I cannot understand nor realize the temperature experience of the explorer, any more than anyone else who has not endured more or less the same cold.

Naturally as I have known cold weather, my experience can offer some slight analogy. To that extent I can grasp the nature of the explorer's temperature experience, though not its intensity. To realize any experience fully—and what is the lasting value of a half realization?—it would seem that I must have had an identical experience myself. The greater the similarity between my own experience and that of another, the greater will be my realization. For full realization, however, we require practical identity of experience. The "law" seems to be emerging already.

2. Of the real feeling of a mother for her child, every man, including the father, must for ever remain ignorant. He can,

of course, observe the manifestations of a mother's feeling in her pride and joy, her patient understanding, her willing sacrifices, and to this extent enjoys an indirect knowledge of what the cause of all these manifestations must be. But the real experience is something into which he can never "enter"; something which he can never fully grasp. Only a woman who has herself been a mother can ever understand the fulness of it all. The father can never know by intimate personal experience what may be the characteristic feeling of a mother for her child; nor can she ever grasp the real inwardness of a father's experience. They can only meet on the common ground of affection, care, and joy.

Once again, where there can be no similarity of experience, there is no real participation, no full understanding.

3. My friend's brother has died. I sympathize profoundly. Yes! but do I understand his desolating experience?

If my own brother has died, I am in a position to grasp my friend's experience fully and really. If a great friend, or near relative of mine—not a brother—has ever died, I can at least parallel my friend's experience with something similar in my own. If I have never known what it is to grieve for relatives or friends, who have died, then all my sympathy is prompted, not by the *fact* of my friend's experience, but by my *thought* or *fancy* as to what it must be like. One day the death of an intimate friend will give me a rude shock, and I shall gain a sense of the reality of things and of their strangeness. In that day I shall no longer *fancy* or *think* what the experience of bereavement must be: I shall *know*.

The law, then, governing the expansion of individual experience is at length clearly discernible. To appreciate the experience of another, I myself must have had undergone a similar set of psychological events in presence of similar facts. The greater the similarity, the greater the appreciation. Where the similarity merges into practical identity, my appreciation will, at last, be complete. Like knowledge, experience is not transmissible: it develops from within.

Experience and Knowledge not Transmissible.

We may delay for a moment, in order to connect this strange fact with one of our earlier findings. It will be remembered that in our seventh chapter, we found that we had two characteristic modes or kinds of knowledge, the one sensorial, the other intellectual. Intellectual knowledge bears the stamp of generality, whereas our sensorial experience is particular, signed and sealed, as we said, with a multitude of individual, "one and one only," characteristics. On account of its generality and relative fixity, we saw that intellectual knowledge might be expressed in words: we have now determined the measure in which that outward expression of my thought can be understood by another.

Sensible experience, on the other hand, with all its clinging attributes of particularity, remained, as we saw, inexpressible in the generalized terms of any language. It is inarticulate, the personal, inalienable property of each individual. We have now seen that another individual must have had a similar or identical experience, in order to understand what transpires in my consciousness. The two findings agree, and even give a satisfying explanation, each of the other. The limits of individual experience are more fretfully narrow than we sometimes dream.

And yet could anything be clearer or more demonstrable from the lives of individuals and communities than this law that experience is not transmissible? In spite of the most careful reading of biography and history, in spite of the solemn warnings of older and more "experienced" people, we individuals continue to repeat the old blunders in our lives. We await the coming of the experience that shall illuminate our minds, and render us graver, wiser men. In our youth we listen to advice, sometimes with docility, sometimes very unwillingly. As a result, thoughts may beat in our minds, but the real meaning and value of those thoughts, good or bad, can only come later, with the dawn of that experience which our

elders perforce gained for themselves. The one hope of progress lies in having elders who are capable of integrating their experience, of extracting wisdom from a multitude of varying events—experience does not necessarily come with age—and in having younger people who will listen with docility. The combination is rare.

With communities, nations, governments, the same truth holds. Wherever we look, whether it be to a village community in India, to a city-state in the ancient world, to a modern nation or empire, we shall find that the old political, social, economic troubles repeat themselves with unfailing regularity. The struggles, revolutions, rebellions, wars that mark our progress, show all too clearly that each community and each government must gain its own experience. Briefly, experience cannot be “thrust” upon individuals or nations from without: it develops, slowly enough, from within. We participate, then, in the lives of others, in the measure of our own experience.

By this real participation, moreover, we individuals lose the sense of our loneliness; we break down the barriers that divide us from the race of men; we feel a oneness of aim and aspiration, in a word of experience, with our fellows. And by this real participation, we understand more fully the enigmatic currents and cross-currents of our own strange eventful history.

The Law of Knowledge Demands some Similarity between the Knowing Person and the Known Reality.

IV. In considering the scope of our knowledge from several very different points of view, we have strangely enough come to conclusions which present a common aspect. Is there, we ask then, not unnaturally, some deeper principle, some more fundamental law at work in all these cases? The whole discussion of boundaries and frontiers seems to turn on some fact of similarity. Let us set out our conclusions briefly enough.

(a) We, who are persons, can have positive knowledge of persons and things, or to put it differently, we who are extended and intelligent realities can only have positive knowledge of other extended realities. *The similarity* of extension must exist between the knower and the known. If the reality is not extended, our knowledge is negative or analogical, or both, but never positive. We are, in that case, reduced for the most part to chronicling fundamental dissimilarities.

(b) The knowledge of other persons' thoughts and judgments can, as we ordinarily say, be "communicated" to me, provided I am prepared to make a corresponding intellectual effort. For the communication and acquisition of knowledge, in other words, there must be a measure of *similarity* both in capacity and effort between the two minds.

(c) The experience of other men cannot be transmitted, ready made. My understanding of their experiences of whatsoever kind depends upon the measure of my own. The greater the *similarity* between the outer facts and inner events of our lives, the greater will be my appreciation of their experience.

In each case, therefore, the conclusion pivots on the fact of similarity. The three cases, which cover the whole corpus of human knowledge that can be communicated or acquired other than by an act of faith, can be summarized in one great inclusive law. *Knowledge demands some similarity between the knowing person and the known reality.*

The Fact Behind the Law.

V. In our discussion of the nature and limitations of human knowledge, we have been impressed throughout by one important fact. Knowledge is, in no sense, an external event but an inner experience; not a mere casual "brush" with reality followed by some pretentious, intellectual travesty of the facts, but a realization within us of the reality that lies beyond.

We are, therefore, tempted to push our inquiry still further, and to ask how this inner realization is affected. In other

words, what is the *manner* of our knowledge of things, other than ourselves? What is the inner process, the secret of it all? What is the governing process behind this strange law that knowledge demands some similarity between the knowing person and the known reality? Is it possible, we ask, that just as we must necessarily "live" an experience before it can be understood, that we may too in some sense "live" the reality of the things we know; that the soul of a man should for the fleeting moment of knowledge *become* what it knows; that in the classical phrase "*ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα*".¹

Let us review the outstanding facts of our knowledge, lest perhaps this attractive theory should captivate our thought, and blind us to its own difficulties. Of what nature are the realities that I know? For the sake of clearness, we may make a list of them.

A Classification of Known Reality.

1. There is the vast world of Inorganic Matter, which is studied by the chemists, mineralogists, and geologists. This matter is known to us as a being or a reality which reveals itself in the inalienable property of extension, and which enjoys a strange, measurable, magnet-like attraction for everything else of the same kind. Naturally, any given specimen, whether it be element or compound, solid, liquid, or gas, will possess, over and above extension and attraction, a number of individualizing or rather specific properties. The innumerable, differentiating features, however, all fall within the "cadres" of extension and attraction.

2. From non-living, inorganic things, we naturally pass to think of Living Matter, which is studied by botanists, zoologists, physiologists, anatomists; in a word, by all who devote themselves to one or other branch of biological science. This vast realm of life is divided into the vegetable and animal kingdoms, and the animal kingdom in its turn is divided into human beings, and the lower non-rational animals. Briefly, we can

¹ Aristotle, "de Anima," Γ 8.

classify living matter under the three headings of vegetative, animal, and personal realities. A word about each.

(a) A vegetative form of life is known to us as a being or reality which, in addition to the extension and attraction properties of inorganic matter, enjoys the triple power of nutrition, growth, and reproduction. This triple biological function is pursued through a series of immanent changes, which while being stimulated from without, are developed from within. A neatly articulated engine or machine, some one suggests? "Assuredly," we may reply with Prof. J. Arthur Thomson, "the organism may be called an engine, but it must be remembered that it is a self-stoking, self-repairing, self-preservative, self-adjusting, self-increasing, self-reproducing engine!" The differences in green cells might be multiplied indefinitely, and indeed a number of general properties common to the whole species might be added. Let the broad indication suffice. A vegetative form of life is an extended reality which pursues the triple "biological" function through a series of immanent changes.

(b) A lower animal—we say lower to distinguish it from the rational or personal type—is known to us as a being or reality, which, like all matter, is extended; which, like vegetative matter, enjoys the triple power of nutrition, growth, and reproduction, to be pursued through an untiring series of immanent transformations; and which, over and above, possesses the property of sentience, the power of sensation and sensorial awareness.

The sense process, once again, is immanent: stimulated from without, it is consumed and terminates within, unlike the transitive action of my arm, let us say, which, in moving, may shatter a glass and thus lead to results in the world "outside". Animals, of course, differ in a thousand ways. We have only attempted to "hit" the distinguishing characteristics of the whole genus. Briefly, a lower animal is an extended reality, which, in addition to the vegetative powers, enjoys the property of sensorial awareness.

(c) A person is known to us as a being or reality, which,

like all material things, is extended ; which, like vegetative matter, enjoys the triple "biological" function ; which, like non-rational animals, enjoys the power of sentience ; and which, over and above all these characteristics, possesses the intellectual power of conceiving ideas, of judging and of reasoning. For the sake of brevity when we wish to define, we usually refer to a person as a rational animal.

This closes our knowledge of the outer world of living things.

3. But there is one other reality of which we have specific knowledge, the reality of our personal selves. There is no direct, immediate "seizure" of the self, no intuitive grasp of what we are. Like all else, we know what we ourselves *are*, by what we *do*, by our typical reactions, properties, activities.

What, then, are we to ourselves, from the restricted angle of vision of the epistemologist? We are known to ourselves as beings or realities, which enjoy the joint properties of inorganic matter of vegetative and animal life, and of that rationality which we perceive in other persons. *In other words, our activities include all the typical reactions of all those things of which we have any positive knowledge.*

If matter is extended: so are we. If it is attracted by other matter: so are we. If vegetative forms of life can grow: so can we. If animals have finely-developed sense-perceptions, and the sensorial memory that goes with them: so have we. If other persons have all that we mean by the intellectual powers, and self-consciousness: so have we. There is thus something all-inclusive in the nature of the human person. We *are*, in some sort, all that we can positively *know*.

Knowledge Involves a Coincidence of Activities.

Why, then, if we by nature *are* in some sort all that we can *know*, should we not *become* what we *know*, for the fleeting moment of our contemplation? Why, at the moment of knowledge, should we not develop, within ourselves, the activity which corresponds to that of the reality we perceive? Why, in that case, should knowledge not be in very deed a

realization within us of the real that lies beyond, a momentary living the life of another, a concentration of our attention upon a reality which we grasp on account of its fundamental similarity or identity with our own nature? Why should knowledge not be thus explained as a coincidence of activities within and without?

Remember that strange, governing law which set us musing. Knowledge demands some similarity between the knowing person and the known reality. If we *are*, in some sort, potentially all that we can positively know, and if we, in the act of knowledge, *become* accidentally and fugitively what the known reality *is* substantially and permanently, then the fundamental reason of this governing law of similarity stands revealed. Knowledge *demand*s some similarity because it is founded upon a partial or complete coincidence of activities. In no sense, therefore, can knowledge be regarded as an external event, a mere "brush" with reality, or an effort to distort things to the likeness of ourselves, to suit the exigencies of our own minds. It is a real inner appreciation of the community of nature, or community of aspect between things and ourselves:—a revelation both of the world and of ourselves at one and the same time to our own minds.

Bergson's Anti-Intellectual Philosophy Fails.

How far in all these considerations we have wandered from the contemporary cry against "the pretensions of intellect"! M. Bergson, and his many disciples and admirers at whose doctrine we may glance in passing, would have us believe that our intellects are incapable of grasping the warmth, the plasticity, the changefulness of reality. The intellect is at home in thinking of points, lines, planes, in dividing up material things into material parts, in manipulating solids: it flounders hopelessly in endeavouring to represent "le jaillissement perpetuel," the unending, creative becoming of things. Our intelligence was not made to understand the heart and soul of things: it was developed to help us to make rabbit-hutches

and steam-engines. “. . . Les tendances intellectuelles, aujourd’hui innées, qui la vie a dû créer au cours de son évolution, sont faites pour tout autre chose, que pour nous fournir une explication de la vie.”¹ “. . . On pourrait dire de la vie, comme de la conscience, qu’à chaque instant elle crée quelque chose. Mais contre cette idée de l’originalité et de l’imprévisibilité absolues des formes, toute notre intelligence s’insurge. Notre intelligence . . . a pour fonction essentielle d’éclairer notre conduite, de préparer notre action sur les choses. . . .”²

Elsewhere we read: “L’erreur . . . est d’étendre trop loin l’application de certains concepts naturels à notre intelligence. Originellement nous ne pensons que pour agir. C’est dans le moule de l’action que notre intelligence a été coulée. La spéculation est un luxe, tandis que l’action est une nécessité.”³

And the whole condemnation of our power of knowing is given in the following significant words that have been quoted so often by M. Bergson’s critics: “Si nous pouvions nous dépouiller de tout orgueil, si, pour définir notre espèce, nous nous en tenions à ce que l’histoire et la préhistoire nous présentent comme la caractéristique constante de l’homme et de l’intelligence, nous ne dirions peut-être pas *Homo sapiens* mais *Homo faber*. En définitive, *l’intelligence, envisagée dans ce qui en paraît être la démarche originelle, est la faculté de fabriquer des objets artificiels, en particulier des outils à faire des outils, et d’en varier indéfiniment la fabrication.*”⁴

The operation of our intelligence is often considered by M. Bergson, particularly in the “Evolution Créatrice,” and as often condemned. Its static, piece-meal way of “seizing” things, makes it an excellent instrument for considering anything as unreal as geometry, or for executing plans of artificial things like engines, tools, machines. When turned to consider reality in all its variety and inconstancy, in all its

¹ “Evolution Créatrice,” p. 22.

² Op. cit. p. 31.

³ *Ibid.*, p. 47.

⁴ *Ibid.*, p. 151.

unforetold possibilities, it "immobilizes" and thus deforms the truth of things. Man is a *homo faber*, not, as we proudly think, a *homo sapiens*. In these words the very possibility of a "just" intellectual appreciation of things is dismissed.

Intelligence, then, can help us in anything practical and artificial, as, for instance, to set up a "science" of engineering, and to make plough-shares, engines, and means of transport.

To philosophize, M. Bergson would have us develop our dormant intuition, our human instinct, which has been almost suffocated by our worship and use of intelligence. By means of instinct we break away from the external quasi-geometrical view of things, and grasp things "par le dedans" in knowledge which is real and "interne". This intuition, which is to replace the old cumbersome, deforming intelligence, is a "sympathie divinatrice,"¹ "quelque chose d'immanent et d'essentiel"² yielding "une vision intégrale, quoique sans doute évanouissante de la poussée vitale".³ For our intelligence to gain this intuition "il faudrait qu'elle se détachât du *tout fait* et s'attachât au *se faisant*. Il faudrait que, se retournant et se tordant sur elle-même, la faculté de *voir* ne fit plus qu'un avec l'acte de *vouloir*."⁴

By this "effort douloureux," which is accomplished by doing violence to nature, "en violentant la nature," we shall possess the Bergsonian intuition, "cette espèce de sympathie intellectuelle par laquelle on se transporte à l'intérieur d'un objet pour coïncider avec ce qu'il y a d'unique et partant d'inexprimable."⁵

The words "coïncider," "unique," "inexprimable," set us thinking. Without any "effort douloureux," without doing violence to nature, we showed that our knowledge may be truly regarded as a "coïncidence of activities within and without," "a realization within us of the real that lies beyond". The fulness of that knowledge can never be expressed, and there-

¹ "Revue de Métaphysique et de Morale," 1903, p. 1.

² "Evolution Créatrice," *Intro.*, p. 5.

³ *Op. cit.*, *Intro.*, p. 5.

⁴ *Ibid.*, p. 258.

⁵ "Revue de Métaphysique et de Morale," 1903, p. 3.

fore never communicated, for our sensations are as unique and therefore incommunicable as the unique realities which they make known to us. Part at least of M. Bergson's dream of a real "science interne," which shall grasp the reality of things inwardly and truly, is realized—*à son insu*—in our sensible and intellectual knowledge, which he condemns with such uncompromising vehemence.

When M. Bergson wrote his condemnation of intelligence, and set forth the "new" and "painful" method of intuition, he must have forgotten all those facts which led us to conclude that our knowledge was a real inner experience. Fixing our eyes on the facts, forgetful for the moment of the antagonistic system of the French philosopher, we wrote: "In no sense, therefore, can knowledge be regarded as an external event, a mere 'brush' with reality, or an effort to distort things to the likeness of ourselves, to suit the exigencies of our own minds. It is a real inner appreciation of the community of nature or community of aspect between things and ourselves:—a revelation both of the world and of ourselves, at one and the same time, to our own minds."

When M. Bergson wrote so contemptuously of our intelligence, he must have forgotten that strange comprehensiveness of our activities, which are so fully representative of all things that we can positively know. He must have forgotten that we, once stimulated from without, draw our appreciation of what things are from within. He must have forgotten the long line of Greek philosophers, who, in the spring-time of philosophic speculation, in spite of almost innumerable mistakes, discussed the manner of our knowing with such power and vision. He must have forgotten that haunting doctrine of Aristotle, "il maestro di color che sanno," given in the line: "ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα".

Light from Greece.

With a certain sense of liberation we turn to give an outline of the Greek philosopher's thought.

The older Greeks, when they discussed the theory of knowledge, seemed to have "struck" the real difficulty. They saw, with their strange philosophic acumen, that if knowledge is to give us a true representation of reality, it must be effected by the presence of something representative within us. What, then, was the inner representative of the outer reality? Democritus, the great disciple of Leucippus, who followed his master in the whole theory of Atoms and the Void, gave a purely mechanical solution. Knowledge, he said, was effected by the presence of tiny representative particles—the famous εἶδωλα—which streamed from the outer reality through the channels of the senses. Sensation, in fact, was a real impounding of representative atoms, a seizure, a participation.

He might, indeed he actually did dismiss sensation as "bastard" knowledge, in comparison with "true born" knowledge which lay "in the depths". "By use (νόμῳ)," he said (frag. 125), "there is sweet, by use there is bitter; by use there is warm, by use there is cold; by use there is colour. But in sooth (ἐρεῆ) there are atoms and the void."¹

The fact remained that he had, in propounding his ultra-mechanical theory, made one of the most hopeful mistakes in the history of Greek philosophy. Prof. Burnet gives his theory in the following condensed words: "As the soul is composed of atoms like everything else, sensation must consist in the impact of atoms from without on the atoms of the soul, and the organs of sense must be simply 'passages' (πόροι) through which these atoms are introduced".²

Aristotle, impressed with the same necessity of finding inner representatives of outer reality, wrenched the Democritan theory from its wild metaphysic of "Atoms and the Void," gave it a "twist," a new setting and propounded the truth. Within us, we have, not material atoms, he said, but their forms; not matter but form or activity. "οὐ γὰρ ὁ λίθος ἐν τῇ ψυχῇ, ἀλλὰ τὸ εἶδος."³ *Our mind*, in other words, *grasps external reality*,

¹ Quoted by Prof. Burnet, "Greek Philosophy," Part I, p. 197.

² Op. cit. p. 196.

³ Aristotle, "de Anima," Γ 8.

because our comprehensive activities include the activity of the thing perceived. The representative of the outer world is thus, not matter, streaming through the senses, but the form or activity, the specific determining factor in the nature of things, which is somehow present in consciousness at the moment of knowledge. Dismissing the theory of the migration of material atoms, Aristotle equally dismissed any idea of the migration of forms. There is no necessity for any migration "*ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα*"—*the human principle of activity includes the activities of all things that it can positively know.*

We need not further develop the theory of Aristotle in all its ramifications of "matter" and "form," or, as we might say in English, of Determinable and Determinant. He saw clearly, as we have been led to admit by a review of the facts, that the human soul, or principle of activity, includes within its ample scope all the known activities of persons and things; that we have knowledge of the nature of things by means of their activities; that in consequence we understand the nature of things by grasping, at the moment of knowledge, their partial or complete community of nature with ourselves. From the jaded, anti-intellectualist cry of our contemporaries, from their all-too hurried survey and condemnation of our powers of knowing, we turn, as ever, for wisdom and refreshment to the oracles of Greece, and above all, to the princely Aristotle. Though he left many of the problems of epistemology unsolved, indeed untouched, he at least saw far into the nature and scope of our knowledge—"ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα".

Summary of the Laws of Knowledge.

A word by way of summary of this chapter may be welcome in conclusion.

We have a vast amount of real, positive knowledge of persons and things. To the theme of our negative knowledge we need not revert again. Now the two outstanding facts or laws which govern the acquisition of knowledge are these :—

1. Reality is grasped by the mind in a way that is proper to itself.

2. Knowledge demands some similarity between the knowing person and the known reality.

3. Knowledge is ultimately based upon a coincidence of activities between the person and the reality.

In the act of knowing, we somehow become what we know. We do not deform reality, nor set bounds to its changefulness. The plastic nature of things does not escape us. The untiring changes, which so often make of the world a scene of such freshness and splendour, are interpreted for us by the law of causality, on which all our knowledge pivots for its justification. We, by our steady vision, catch the fact of recurrence, the reign of law, the cyclic order of change, amidst all the instability of things.

By our intellects we seize the nature of reality, which is relatively constant: by our senses we seize all its diversified inconstancy, and all its recurring activities. By the joint processes of our knowledge, we can know positively, securely, indirectly, all that is partially or wholly identical with ourselves, in nature and activity.

CHAPTER X.

CERTITUDE AND TRUTH.

AFTER taking a reassuring glance at the nature and scope of our knowledge, we revert to the age-long questions of certitude and truth. There is no thoughtful man who in some moment of heart-searching or of mental restlessness, in presence of the inconstancy and bewildering complexity of things, and stranger still, in presence of the unending contradictions in the opinions and judgments of men, has not slowly asked himself these questions. What is certitude? What is truth? Where is the criterion of both to be found? Is truth attainable "on this side death"? Dare I believe anything calmly and securely, unmindful of the possible criticism, the discoveries, the "new knowledge" of the morrow? Or is my certitude, at best a hope, that my knowledge will not be shattered in the onward march of the sciences?

In the world's happy childhood, men believed and clung tenaciously to their convictions, "knowing" that they were in possession of ultimate, irrefragable truth. Their peace and security of mind, undisturbed by clinging, fretful doubts, appeals to us all with undiminished force, and yet to many it seems an unattainable ideal. Our knowledge has witnessed many a rude shock, many an upheaval, in the intervening ages, and some of us wait in suspense, wondering what new vision of things may be communicated, even in our own day, by the leaders of science and philosophy.

Who can see the green Earth any more
As she was by the sources of Time?

Who thinks as they thought,
The tribes who then lived on her breast,
Her vigorous primitive sons ?

This tract which the river of Time
Now flows through with us is the Plain.
Gone is the calm of its earlier shore. . . .

How, amid the flux of opinion, shall a man be certain and know that he "possesses" truth? The question is one which appeals with incalculable force to plain men, and, "however we brave it out," we are all plain men; though our considered judgments need not betray too plain a realism.

The Nature of Certitude.

To begin with, what do we mean by certitude? Certitude is a quality or aspect of a particular psychological state, or, as we say ordinarily, of a frame of mind. Certainty, on the other hand, is a quality of propositions; we speak of it currently as attaching to this or that statement. Though, of course, the "frame of mind" is induced by a "certain" proposition, the distinction between certitude and certainty is none the less real. It is only another aspect of the old difference between psychology and logic.

What, then, is the characteristic of this particular psychological frame of mind? Above all it is a state of repose following upon our assent to the truth of a statement. After much doubt, and, it may be, many misgivings, we acknowledge the certainty of a political programme, of an ethical or religious system, or of some philosophic code. The resultant state of mind while it lasts—it may be rudely shaken or it may terminate abruptly—excludes all denial, all doubt, and, at least, all the more harassing difficulties which tend to make our ordinary judgments rock and sway. The mind rests, calmly convinced of the "truth" undisturbed by the possibilities of criticism or future discovery.

We ourselves, for instance, after probing and endeavouring to doubt the principle of contradiction, found that it was both

indubitable and undeniable in a strict and literal sense. Our consequent state of mind à propos of this proposition, is one of certitude. We are firmly convinced that nothing will ever disturb our tranquil affirmation that "a thing cannot both be and not be". Though every other landmark in science and philosophy should be obliterated in the forward march of human knowledge, this principle will stand for ever.

In this chosen case, we can fortunately justify our conviction, and silence even the last languid "how" or "why" of the sceptic. But of the numerous certitudes in the minds of men, who shall say the same? What of the clashing differences in political, religious, philosophic conviction? What of all those fundamental differences in belief and outlook, which inspire men to live and act, and which make of public life a struggle between convictions, a strife and sometimes a tumult of many conflicting voices? It may happen that a reflective or sceptical mind may receive only "a dusty answer" when "hot for certainties in this our life". The fact remains that most of us enjoy quite a number of settled convictions in unruffled calm.

Certitude One in Kind.

Certitude, then, is a repose of mind in the act of affirmation. Where that characteristic repose exists, there is certitude. Once regarded as psychological states these certitudes are one in kind, no matter how different may be the subject of the affirmation. Thus in considering certitude, we prescind altogether from the bases or motives of our judgment, as well as from its subject-matter. The bases may be firm or unsound, the motives wise or foolish, the subject discussed may be mathematics, history, metaphysics, theology or politics; it matters not. If the resultant state of mind is one of repose and freedom from all doubt, it is known as certitude.

It is well to bear in mind that certitude is one in kind and indivisible, seeing that the fact is often enough obscured by the uses of language. We speak of mathematical, meta-

physical, physical, moral, historical certainty and certitude, and one might be led to think that these different certainties give rise to characteristically different states of mind. The simple fact is rather that certitude implies repose of mind in a given affirmation, regardless of the particular object of our thought. In singling out these descriptive epithets, mathematical, moral, and the rest, we seem to be laying stress rather on the subject-matter of our affirmation than on the repose of our mind—to be losing touch with the unity of state, that is, in the variety of object.

And if such epithets be allowed, why limit their number to three or five? Why not add biological, zoological, economic, political, and a multitude of others—one in fact for each department of human knowledge? We have never understood why mathematics should be so specially favoured nor, for instance, why “moral certitude” which as a rule implies not the certainty but the high probability of the basic judgment should figure in these classifications. Consciousness of possibility, we know, and likewise consciousness of probability varying from something just probable to something nearly indubitable. Both are distinguishable from the repose of the mind, which is freed from all lingering doubt in certitude. As, therefore, all my judgments, whether of mathematics, ethics, physics or history, can give rise to the state of certitude, it is better not to single out qualifying or classifying epithets from the different branches of knowledge.

Certitude Admits of no Degree.

Certitude, then, is one in kind. Unlike probability, it admits of no degree. We may hesitate or suspend judgment about a proposition; we may regard it as possible or highly probable; but once we are certain of its truth we achieve the one, indivisible state of certitude which admits of alteration indeed, but not of degree. We are either certain or we are not. If certain then, we, freed from all doubt, rest calmly in a particular judgment. Such a state admits of no varying

degrees, no sliding scale of intensity. Certitude, we may repeat, is characterized, first, by a calm affirmation, and secondly, by freedom from doubt. Once we are certain of anything, our state of mind shows both these characteristics, which do not strictly admit of "more" or "less," in a word, of degree.

It is only too clear, on the other hand, that the *evidence* in support of any particular judgment may vary from the merest hearsay or trivial prejudice, to an exhaustive survey of all the relevant facts. The evidence, therefore, admits of degree in sustaining or proving power. The same too may be said of the *value* of the certitude. I may be "absolutely certain" of a proposition in geometry, of the usefulness and justice of some political scheme or, let us say, of my Christian belief. The "values" attaching to the three certitudes is, however, very different. My conviction concerning the two sides of two angles of a triangle, though firm does not inspire my life, and cannot be deemed a mainspring of action; whereas my political beliefs may lead me into the arena to do battle for a cause, and my religious convictions may be the real inspiration and meaning of my life. Clearly my certitudes can be arranged in a sliding scale according to their utility, goodness, power, importance. The value of my certitudes, in other words, admits of degree. Yet while the evidence and value of my certain judgments eminently admit of "more" and "less," the judgment itself, viewed intrinsically as a certitude, excludes the very idea of degree.

Certitudes either Intrinsic or Extrinsic.

There is, however, one main division of all certitudes which is highly important. They may be based upon direct, intrinsic evidence, or lacking all intrinsic foundations for a particular person, they may rely upon an extrinsic motive of credibility. My certitudes, in other words, may be the result of some personal "verification" or "demonstration"—however wide of the mark either process may be—or may depend upon my

belief in the "word" or "evidence" of another. Briefly, the motive—we are differentiating¹ not according to the resultant state, but according to its directing motive—may be either intrinsic or extrinsic. We do not, of course, wish to make too "cut and dried" a division, nor to suggest the existence of water-tight compartments. Any particular theory of life, or system of science or philosophy, will, in all probability, comprise a number of intrinsic and extrinsic certitudes neatly articulated in one structural whole. The fact remains that the motivation of our certitudes reveals this deep-seated difference.

I may hold a proposition in geometry or some statement concerning a chemical element, an Atwood's machine, an electric dynamo, or a living cell by the intrinsic evidence of direct perception. On the other hand, I may hold an historical proposition concerning the coronation of Charlemagne, the foreign policy of Richelieu, or the accession of Queen Victoria, or similarly, I may hold my religious beliefs, on the "authority" of some credible, reliable witness.

Thus I may be "perfectly certain" of a remote historical fact, of the geographical position of Petrograd which I have never seen, or, shall we say, of the Resurrection of Christ, owing to the "testimony" of credible witnesses. After reviewing "the facts," we may discover a motive of credibility in the trustworthiness of a friend, a traveller, or witness, and thus be lead to accept their unverified statements. We all accept a multitude of historical facts on the authority of historians; of geographical facts on the authority of travellers; of political events on the authority of our newspapers; of scientific discoveries on the authority of some author, or professor, or research student. Similarly those who are Christians hold their religious beliefs on the authority of "the Church," the authority of Christ,—ultimately on the authority of God.

It may seem that it would be simpler, in view of the explanation, to divide certitudes into those of knowledge and those of faith. Such a classification though undoubtedly useful would, however, not be satisfactory. It might easily tend to obscure

the fact that much of our "knowledge" of science, philosophy, and history is founded on "faith"; that we whose perception and experience is confined within narrow limits, hold a multitude of propositions, in all the departments of knowledge, on the authority of others. *The ultimate appeal, however, is always to the intrinsic knowledge or inner experience of some authority or witness.*

We who listen or read trust the Professor of Sociology who, for instance, collects and sifts the records of travellers and missionaries. He in turn trusts these men, who have been in immediate contact with, let us say, a tribe in Central Africa. Some of their facts are the visitors' immediate personal observations of housing, clothing, and manner of living. Others, perhaps, deal with the mentality and beliefs of the tribe. To register accurate information on these points the travellers or missionary will need to grow intimate with some members of the tribe, in order to see how far their statements are credible. His record of their mentality and beliefs, after every allowance has been made for vagaries of language, for *suppressio veri* and *expressio falsi*, will ultimately depend upon the credibility of the tribesmen themselves, on their own "knowledge," and their own "inner experience". Briefly, our knowledge concerning the particular tribe depends in the last analysis on the credibility and experience of the travellers, and on the credibility and experience of the tribesmen; on the direct perception of the European visitors, and the inner knowledge of the natives. Thus our certitudes, based upon extrinsic evidence, can all be tracked via this or that motive of credibility to the evidence of one who speaks with the authority of immediate knowledge.

No Special Criterion for Certitudes.

Certitudes, then, may be either intrinsic or extrinsic. In either case they may be true or false. What, then, is the criterion of their validity? From first to last the validity of our certitudes is bound up with the problem of truth. Our certitudes will be

valid, if the propositions to which we yield our assent are true. There is no special criterion for certitudes—no distinguishing feeling, perception, or intuition which marks the unquestionable validity of the accompanying repose of mind; no justifiable criterion of luminous obviousness, such as the old Cartesian clearness and distinctness; no justification above all to be drawn from the intensity or vehemence of our convictions.

Whether we hold a belief with dignified calm, or with fanatical zeal matters little: in either case our certitude may lack all foundation in fact. Caprice or prejudice, education or environment, intellectual blindness or religious enthusiasm may lead us to believe calmly in things that never happened, or to accept propositions that are wholly mythical. No apodictic feeling, no vigour of assertion, no vehemence of conviction, therefore, can claim a hearing in this ultimate Court of Appeal. All these feelings are no doubt of intense human interest, and may sometimes even inspire a conviction that the accompanying belief is well founded. Presumption, however, is not proof, and these feelings, however intense, are not a criterion of validity. Our certitudes are well founded and justifiable if our judgments are true. From the question of certitude, we are thus driven forward to consider the meaning and the criterion of truth. The criterion of valid certitudes is identical with the criterion of truth.

The Meaning of Truth.

At last, therefore, we turn and ask "What is truth?" Whatever be the meaning or definition of "the true" and "truth," the terms are obviously used in two very different ways. First, I may say, speaking of Shakespeare that he was a *true* poet, and a *true* Englishman; speaking of a colleague that he is a *true* friend; referring to a precious stone that it is a *real* or *true* diamond. In our English tongue we thus use "real" and "true" as interchangeable alternatives, whereas it is the equivalent of our term "true" that is more frequently found to serve this purpose in other European languages. Briefly,

we may designate an *object* as a *true* something. Secondly, I may say, it is *true* that the theory of knowledge is intricate, or it is *true* that elephants have long memories, or that right should take precedence of might, and so forth for an unending series of judgments. In other words, I may designate a *proposition* as true, and speak of its truth. Truth, therefore, is applicable either to objects or propositions. When applied to beings or objects it is styled ontological; when used to express the validity of propositions it is styled logical truth. Let us consider each in order.

Ontological Truth.

First, what do we mean by ontological truth? What do we mean by applying the term "true" to individuals? We may hammer the answer out by the means of a simple instance. We may say that So-and-so is a "true Englishman". What do we mean?

In the past, it may be that we have been brought much into contact with Englishmen, and as a result, have been led to detect their characteristic virtues and failings. Psychologically an Englishman may come to mean a man who exercises great and sometimes even studied restraint in the expression of feeling; who is liable to sudden gusts of sentiment; who reveals an extraordinary doggedness and tenacity of purpose; who is sincere in friendship and affection; who dislikes any form of deceit; who clings to outward forms of "propriety" and "decorum"; who holds the most decided views on the rights and privileges of individuals, as against any institution, corporation, or government; who shows a disproportionate sense of national self-satisfaction, and a consequent tendency to despise "foreigners"; who shows a lack of power to think analytically in terms of principles, and who in consequence perhaps is never wilfully intolerant or intransigent; who trades with experience and loves compromise, as a way out of difficulty; who is neither over-sensitive nor over-imaginative; whose judgments for the most part are reflective, measured, calm. . . .

Thus my "concept" of an Englishman is that of an individual who possesses or lacks a number of qualities. When, therefore, I say that X is a true Englishman, I assert an identity between the nature of X and the conceived nature of an Englishman; between a reality of which I am immediately cognizant and a reality of my past experience. So in the same way I may think that Browning is a *true* poet. In the past I have been led to conceive the nature of a poet. Now I assert the partial or complete identity between the nature of a poet and the nature of Browning; between the objects of my present and of my past thought. In ontological truth, in other words, we are dealing with partial or complete identity or at least conformity, not between thought and thought, nor between thought and object, *but between object and object, thing and thing.*

We may state the case algebraically, as we did before, when discussing the closely allied question of the validity of knowledge. Let us start with our former example that X is a true Englishman. By dint of experience and reflection, I have come to look upon A, B, C, D as the typical qualities of an average Englishman. A, B, C, D are thus the translation in my consciousness of the qualities belonging to a particular nature, character, temperament, and disposition—that of an Englishman—which I style N_1 . Of N_1 I thus have positive though indirect knowledge. Now I come across an individual, X. In my consciousness I find the old group of concepts and impressions A, B, C, D, or if not actually A, B, C, D, something so very similar as to be practically identical. These translate for me the characteristic moods, outlook, and reactions of my friend X. They translate for me his particular nature, character, temperament, and disposition which I style for convenience N_2 . When I proceed to say that X is a true Englishman—using "true" in the ontological sense—I merely assert the partial or complete identity of N_1 and N_2 .

Neither N_1 nor N_2 is ever "in" my thought. They are known to me indirectly by their properties which are trans-

lated from the order of reality to the order of knowledge in my sense-impressions. Ontological truth is thus in very deed the truth of things ; though naturally not of things conceived in some philosophic vacuum, but of things apprehended by a human mind with its twofold "knowing" process of intellect and sense. Gathering together our ideas we can now give a suitable definition. *Ontological truth expresses a partial or complete identification of the nature of some being or individual with some other being of my past experience.* So much for a definition of our meaning. We shall return later to the inspiring question of the necessary criterion.

We need not, here and now, raise the whole confusing debate as to whether our thoughts are accurate or our knowledge "real". Precisely in order not to confuse a main issue in discussing the nature of truth, we cleared away all these questions in our chapter on the validity of knowledge. There we showed that the many possibilities of error in our knowledge may one by one be eliminated, leaving us in possession of a fund of information, as irrefragable as the principle of causality, or its protecting companion, the principle of contradiction.

It is useless to indulge in recriminations against our powers of knowing. They have their own stringent conditions of validity, their own imperturbable indirectness, their own governing laws and limitations. Nearly all the more fundamental difficulties against the "reality" of our knowledge seems to spring from some misconception of its nature and aim. Be that as it may, we showed in a former chapter that our knowledge, if properly collected and sifted, may be perfectly valid. When, therefore, we define ontological truth as an identification of the object of my present thought with the object of my past experience, it is not necessary to ask if the means of "perceiving" such identities are at my disposal. We have already shown that our knowledge both of nature and quality may be valid.

The Meaning of Logical Truth.

From ontological we turn to define its companion logical truth. What do we mean when we say that a statement or proposition is true? Before giving an answer, we must make some sort of a rough classification of propositions, which can of course be grouped in a hundred different and bewildering ways. As a rule, in formulating a proposition we assert some one thing of another; but not always. We frequently remark, "it is cold," "it is freezing," or make statements of a similar kind which merely affirm the existence of something. In the same way we might say that America exists, or that a particular prerogative of the English Crown still exists. These and similar statements we shall style for our purpose *existential* propositions. A more usual type, however, is exemplified in such statements as "Cambridge is due north of London," "mahogany is red," "camels are cantankerous," or what not.

While the first kind of propositions only affirm the existence of something, this latter kind tells us about some aspect of the nature or quality of a thing. They may therefore be called *qualitative* propositions. Now in spite of a multitude of forms and differences, all these typical qualitative judgments show a linkage of two terms. They may be abstract, like the terms red, "cantankerous," or "due north," or general, like "mahogany," or "camel," or particular, like Cambridge, or Cheapside. Whatever be the kind of terms, at least two are linked together in a qualitative proposition, and one is asserted of the other. The type of judgment may therefore be standardized in the old form "P is Q," beloved of the logicians. Nearly all the statements that are ever made can with a little good-will and rearrangement be thrown into this standard form, and incidentally those, who remember their first significant remarks and conversations in a foreign language, will recall how much can be conveyed by simple assertions of this "classical" form "P is Q".

The trappings and ornaments of our own language, the use of

epithets and adverbs, of "as'es," and "buts," "somehow's," and "rather's," of qualifying phrases and guarding clauses, tend to obscure the gaunt frame-work of our assertions. Moreover, we repeat judgments that we have heard, and those which we have once formulated tend to recur with almost fatal ease in our conversations. In this way we do not notice the application of one "idea" to another, the slow linkage of terms in a judgment, as we may so easily when we begin to deliver our minds of their first brief observations in a foreign tongue. Whether we think in Russian, French, or English, however, makes little difference. We are for ever attributing one "representational element" to another, hurling epithets at substantives or ideas at one another.

Just, therefore, as ontological truth lay in some identity of thing with thing, so logical truth deals with the conformity of "thought with thought"; of some abstract or general term with some other that may be abstract, general, or particular; briefly of one representational element with another.

For our purpose in dealing with judgments in a broad schematic way we divided them into two kinds, existential and qualitative. We may now say a brief word about each before defining logical truth.

How can we affirm an existential judgment that America exists, that Australian aborigines still exist, or what not? The answer is simple. By means of sense-impressions or thoughts, or both, I am brought face to face with a particular reality, styled America or an Australian "aborigine". By an instinctive immediate application of the principle of causality, which may be amply justified, we assert the existence of the reality. The whole procedure, so processless, so unargumentative, so immediate, may be justified by the proof for the existence of a real world which we have already submitted. Existential judgments, therefore, prove tractable enough.

When, on the other hand, I make a qualitative judgment P is Q, what do I mean? Presumably Q represents some quality, aspect, or relation which is found to belong to my

representation of P : my thought or conscious representation of P include Q. "Redness" belongs to mahogany: the relation of being north of London belongs to Cambridge: fractiousness is ever included in my representation of camels. Now logical truth, which is the truth of propositions, will be found when this supposed conformity of P and Q is really justified. *Logical truth, therefore, expresses the conformity, applicability, or correspondence of the two terms of a proposition.* Just as ontological truth expresses the partial or complete identity of two objects—the identity affirmed of the things, being discovered by their "refraction" in consciousness—so logical truth expresses the conformity or partial identity of the two terms of a proposition. Briefly, truth always signifies the conformity either of two realities or of two conceptual elements, of thing and thing or of thought and thought.

An Easy and Dangerous Formula.

Throughout this brief treatment we have avoided the easy, and not altogether felicitous definition that truth expresses the conformity of thought and thing. No doubt the meaning implied in such a definition is beyond all reproach. We only observe that the expression is apt to falsify the meaning. It has been indicated, not once but a hundred times by critics, that there can be no real conformity of thought and thing, of a conscious event with a physical reality. The thought may indeed, as we have shown, be a valid representative of the nature of that physical reality; but to be a satisfactory representative does not induce conformity. This, however, is only a question of terminology, and need not detain us further.

The second criticism is much more vital. If truth, say the critics, is defined as a conformity of thought and thing, it is and must remain undiscoverable. My thoughts, I know, but of what the thing "in-and-for-itself" may be, apart from my thoughts, I know literally nothing. I cannot possibly first think of my thoughts; then forgetting them for the moment,

register the nature of the physical reality by some other process ; and finally reconjure my thoughts and establish their conformity with the "real" nature of the thing. Yet, some such psychological feat seems often enough to be implied in this definition of truth as the conformity of thought and thing. If the philosophers, who use the definition, turn and say with some trace of indignation or pity that they never even dreamt of such a perversion, we accept their statement without question. Their meaning, in other words, is incomparably better than their expression.

May we remind them, however, that the plain realist, with his indomitable objective bias, does actually seem to believe in his power to check the thought of a thing by the very nature of the thing itself? They are ready, moreover, to expound their conviction in terms of the "mirror" imagery. The mind "reflects" its object. Now the mirror may be concave, convex, or a more reliable reflecting medium. If one desires at any time to check the veracity of consciousness, one has only to compare the reflection with the object as one might compare a "through-the-looking-glass" clock with the "clock itself". Could anything be more simple or more impossible? One has only to "stand outside" oneself and compare the "mental reflection" with the "real object" !

The truth is, however, even more simple. If our minds be likened to mirrors—the imagery is even singularly apt if we remember the limits of its range and application—we have a double power. Either we may compare object with object, by means of their reflections, or we may compare one reflection with another ; but to compare the object as an object with the reflection as a reflection is "beyond the beyonds" of human possibility.

It is well, therefore, to avoid any semblance of this ultra-realist dream, or in other words, to avoid the curt attractive definition of truth as a conformity of thought and thing. On that account, we have maintained throughout that truth is

a conformity of thing and thing, or of thought and thought, but never by any chance of thought and thing.

What is the Criterion of Truth ?

Having fixed our definitions, we turn to the mighty problem of the criterion of truth. What is the test, the touch-stone of which we may judge the validity of the supposed identities or conformities which we style truth? What is the criterion of truth?

In seeking criteria philosophers have almost exhausted the powers of human ingenuity. They have tried to discover criteria everywhere. Some have clung to a *blind faith* as the only sure means of knowing anything, and have immediately established some "authority" as the only unfailing criterion. Others have sought a test in some decisive *operation of the will*, such as the acceptance of "reasonable" postulates, or in the *immediacy of feeling*, which carries conviction by its volume or intensity. Turning from too frank an assertion of the "will to believe" some have found a criterion in some supposed *inner illumination of mind*, in the direct, clear, *vision* which excludes all question and doubt, or in some infra or supra intellectual power of *intuition*, which justifies itself apparently by the fact that it is "given". Such criteria, of course, are strictly esoteric: they are understood only by the "illuminati" who cannot share their vision or intuition with us "intellectualists".

In times of distress, when the whole domain of philosophy has been littered with broken systems, men have tested these truths by the robust *common sense* of the human race, or by some "*consensus generis humani*". Others, despising the assertiveness of intellect, and feeling that thought was not commensurate with experience, have set up some criterion of the *satisfaction of the whole man*. That is true which stimulates and satisfies intellect and feeling and all that makes us men.

Nor are we yet near the end of our catalogue. Those

whose minds by their idealism have been driven inward, seek the test of truth in some quality of thought itself. They have singled out the quality of *coherence* or *absence of contradiction*, together with *comprehensiveness*. "Truth," they say, "must exhibit the mark of internal harmony, or again the mark of expansion and all-inclusiveness." . . . The standard is positive non-contradiction developed through comprehensiveness and consistency. Others, naïf realists by nature and conviction, have fixed their hopes on "*correspondence*"—correspondence, moreover, of thought and thing—as the ultimate test. And lastly, for we must not turn our essay into a catalogue, there are those who, turning their thoughts away "from first things, principles, 'categories,' supposed necessities," look towards "last things, fruits, consequences, facts". They judge—though not exclusively perhaps—of the truth of a proposition by its *results*. "The end verifies the means." Their criterion is thus sought in *adaptability* to life and action, in general *utility*, in power to give freedom to action and satisfaction to thought.

We men are known as beings who are capable among other things of feeling, of will—by which we mean desire and delight, of intellect—that is conception, judgment, reasoning, and of sensation. Every single one of these psychological factors, and almost every possible combination of the group, taken two or more at a time, has been singled out as the standard or criterion of truth. Similarly, our judgments or propositions may be regarded either for what they are, as significant assertions, or for what they are worth as "dynamos" in our lives. We may consider their *foundation*, their *motive*, their actual *implication* or their *value*. Once again, every single aspect of the judgment has given rise to a criterion in some system of philosophy.

It would seem in very truth that in solving this inspiring question philosophers have exhausted all the possible alternatives. Now intrinsic to the knowing process, now extrinsic; now psychological, now theological; sometimes one, some-

times another of the many aspects of the judgments itself, these criteria mirror, with no little accuracy, the "zig-zag" course of modern philosophy.

What, then, we ask, is the real criterion of truth? As we cannot hope to do justice to all these systems and codes, within the limits of one volume, we propose to abandon at once the historical treatment. We shall simply endeavour to show the characteristic notes of a true criterion, and then turn to consider our own. The procedure, moreover, is interesting; for as we consider, analytically, without any reference to the conflicting systems, the indispensable qualities or notes of a real criterion, many of the more extravagant tests that have been offered slowly disappear into the vast region of the impossible.

The Notes of a Real Criterion of Truth.

1. The first indispensable note of a criterion of truth is *immediacy*. It must be something that can be grasped and fully understood at once, without parley or argument, in order that it may be immediately applicable as a measure of truth. If the criterion itself were not an immediate truth, something that gains the immediate approval of our intelligences, it would require an elaborate justification, another criterion. "Nous voylà au rouet," as Montaigne would say. To attempt one great journey in the effort to solve the problems of truth and knowledge, is the natural desire of all philosophers. To attempt a second to justify the first, and so on, with an ever-widening vision of labour, would weary a philosophic Titan. Our criterion, therefore, whatever it is, must be immediate. It can depend upon no theory, no postulate, no complicated vision of things. It must deal, in other words, with the simplest, ultimate facts of consciousness.

2. The second indispensable requisite of a criterion is that it must be *intrinsic* to the knowing process. Our knowledge, if it is of any value, must have within itself some means of discussing its own validity. No appeal to the will or feeling

or common sense or faith of individuals or communities can avail as an ultimate test of truth. If a criterion were sought in the will, for instance, we should require a "theory of will" to support "the theory of knowledge". Once again an ever-widening, never-ending vision of labour would open before our gaze. Frankly, we prefer not to figure as competitors of Sisyphus.

Moreover, even if, "per impossibile," we completed our task, the labour would all have been in vain. One cannot hope to discuss the validity of knowledge by something which is not knowledge; any more than we can hope to reason constructively with our senses, or to feel with our intelligence. Briefly, it is impossible to discover truth, to discuss the identities or conformities either of objects or of thoughts by means of something which has nothing to do with either. The test of knowledge, the criterion of truth, must be intrinsic to the knowing process. To attempt to measure the accuracy of our knowledge by means of our strivings or desires, or by means of some feeling of pleasure or exultation that may accompany a given train of thought, is to measure knowledge by what is not knowledge, or in other words to seek an extrinsic criterion. The knowledge, indeed, may be accurate, but the test, as such, is worthless. One cannot measure the surface of the earth in gallons, nor a volume of water in acres. *The standard of measurement must ever be homogeneous with the thing measured.*

3. The criterion of truth, whatever it be, cannot be subjective in the sense of being the property of one individual, or the peculiarity of some small group of men. It must be something common to all men, and peculiar to none; something which for want of a better word we style *trans-subjective*. The epithet "objective" has often been chosen to designate this third requirement of a criterion, but we cannot deem the choice happy. Truth always implies a relation, either of object to object, via a mind, or of thought to thought—we use "thought" in the wide sense of any representation in consciousness—within a mind. "Objective" truth, therefore, in the sense of

something independent of any mind, is simply non-existent. Now the test of truth cannot be more "objective" than truth itself. We cannot therefore expect to find a rigid "objective" reality by which to measure the accuracy of our knowledge. On the other hand, truth cannot be the prerogative or privilege of any one person, or of any esoteric group. The criterion, in other words, must be trans-subjective. Truth must be impersonal.

A criterion, therefore, to sum up sharply, must be immediate, intrinsic, and trans-subjective.

We may glance for a moment at the third note of trans-subjectivity, to see how many of the hopeful criteria of the philosophers are rendered inadmissible by our analytical considerations.

Trans-subjectivity the Breaker of Systems.

As subjectivity must at all costs be avoided, we cannot seek our criterion in the more changeable, fluctuating, "personal" elements in consciousness, nor in those complexes which involve the play of our more variable functions. The criterion, that is, must be found among the stable functions of consciousness which we all share, and which to that extent are trans-subjective. Now two of the most changeable functions of consciousness are feeling and will. Neither they, nor their complexes, therefore, can be the criteria of truth.

Of all the events that come and go in the stream of consciousness, feelings are the least stable. As they change with perplexing irregularity from hour to hour, and often enough from one minute to another, they give, as it were, an ever-changing colour-background to all our thoughts and desires. Thus for ever oscillating both in intensity and kind within the consciousness of any one individual, they do not find any necessary counterpart in the mind of another. Our feelings are our peculiar property, so subjective as to serve almost as a definition of that unfortunate term. No play of feeling, no exalted appeal to any "Geistes-Gefühl" like that of Jacobi, can therefore be

allowed in the ultimate test of truth. Feelings like "intuitions" may give rise to suspicions, or even to inspiring assumptions. They ought not to convince, for they cannot prove.

From feeling we turn for a moment to will. By our will, we mean a particular psychological function which is capable of two and only two typical manifestations, in desire and delight. The desire is the "urge" of the will, the tendency to strive after some object or ideal, just as delight is the reaction which we experience on its attainment. In passing, probably much of our human story, with its tragic and comic elements, can be summarized in the formula that our power of desire is far more intense than our power of delight. Vehement desires are pursued with a strange pertinacity, and lead at last to what is often but a pale fulfilment. In any case, desire is eminently a personal affair. The ambitions, strivings, loves, hates, aspirations, all the "lust of the will" to live and expand, are the inalienable property of my own soul. They may be shared in part by some others, of my own nation, class, profession; but the part that is shared will find its way into a new constellation. The emphasis will be changed.

There are indeed a few desires shared by all men, such, for instance, as the longing for a state of supreme, unending happiness; but the ordinary series of our desires varies at not infrequent intervals in any one individual, and shows the most surprising differences, both in intensity and direction between any two persons taken at random.

Delight, moreover, which follows in the wake of desire, shares all its strange variability. Thus, by desire or delight, or what comes to the same, by an act of the will, it is impossible to solve the problem of truth. It would at best lead us by a tortuous, unreasonable path, to a subjective certitude, which might or might not be valid. Struck with the note of subjectivity, it could never lead us to establish a trans-subjective, impersonal truth.

No belief, therefore, of any kind, whether it be in the Kantian postulates of the practical reason, or in some authority

like that of de Lammenais, or in the traditions of men, like that of Roger Bacon, de Bonald, and the rest, can be used to solve the ultimate problems of knowledge. Belief always implies an act of the will, of desire or delight, and neither of these personal factors can lead us infallibly to a truth that may be apprehended by all men. Belief must be based upon knowledge, and not knowledge upon belief.

Neither feeling nor will, therefore, should be used to test the truth of anything; nor, be it noted, should any of their complexes. Such a complex, for instance, would be found in the robust common sense of the human race, which has been erected into a criterion by not a few philosophers, to be held devoutly by many men as the ultimate test of truth. "Common sense" is too confused, too unwieldy, too unsteady an instrument of measurement. In the making of the common-sense views of men, in the framing, that is, of a theory of life and conduct, their wills and feelings play a not inconsiderable part. They judge so often by results, and by the feelings and reactions which the results provoke. Where feeling and will enter into the framing of a test, that test must cease to be sufficiently trans-subjective to be a criterion of truth.

Similarly it is impossible to appeal to "the satisfaction of the whole man" as the touchstone of validity. One "whole man" varies extraordinarily from another, and what would satisfy one would leave another cold and unmoved. Briefly, the "whole man" includes a gamut of feelings and desires, which are not, and cannot be trans-subjective. Thus, none of the complexes of will and feeling can be pressed into our service. Once again, by taking a different path, we come to our former conclusion that only within the realm of knowledge itself can the criterion of truth be found.

Evidence the Criterion of Truth.

What, then, is the criterion which satisfies the triple requirement of being immediate, in the sense of dealing with the simplest ultimate facts of consciousness, impersonal or trans-

subjective, and intrinsic? *The criterion is evidence, the evidence, clearly, of our cognitive processes of intellect and sense.* The whole trend of our discussion has brought us to this important conclusion. In presence of objects, I have representations by the dual processes of sensation and intellect. If I take sufficient care, and obey the necessary conditions, I can, as we have shown, be indubitably certain of the validity of those representations, of the accuracy of my knowledge. That knowledge, both sensorial and intellectual, dealing with the properties and nature of the objects of experience, gives me a certain amount of evidence. That evidence, collected, sifted, and applied, is the only test by which I can judge the validity or truth of propositions. Truth always applies a relation, either of object to object, via the mind of an observer, or of thought to thought within his mind. The criterion for the supposed identity or conformity can be alone sought in the evidence, which sense and intellect place at our disposal.

I assert, for instance, the identity of two objects, one of my present, the other of my past experience, in saying, "this is a true or real diamond". How can that identity be tested, or in other words, what is the criterion of its truth? What indeed but the immediate evidence of my sensations? If my concept of diamond be a valid representation of the stone—if it be invalid, the result is due to my own carelessness—and if my immediate sensations, here and now, reveal the characteristic properties of the diamond, and the response to the ordinary tests, then I may be certain that the stone is a true diamond. The test of my certitude, and of the truth of the statement lies in the one criterion of evidence.

Similarly, we may apply the test to the truth of propositions, that "Cambridge is due north of London" or "mahogany is red" or that "two and two are four". I have only to take the evidence of sense and intellect, and to see if one representation includes the other, or if one term of the proposition is conformable to the other.

Let us take the least promising of the three propositions,

to wit, "two and two are four". Mathematical unity never existed on land or sea, any more than the dreams of geometers really exist. Still I have a definite concept of unity which is an "abstract" and not a general term, derived by the mental process of abstraction. By two I mean $1 + 1$. By four I mean $1 + 1 + 1 + 1$. The immediate evidence of the meaning of my concepts reveals the truth of the original statement. To say that there may be a world where two and two make five, is to assert pontifically that there may be a world where "four" is called "five". We might add that there may be a world where two and two make "flonkin," to coin a new term. All we know immediately, however, is that if the people of that world mean what we mean by "two," then "flonkin" means what we call "four". If it does not, then the arithmetical powers of that people are beneath contempt.

The process of securing valid knowledge, and of collecting, sifting, purifying the data of sense and intellect, is painfully slow and laborious. No mystical criterion of intuition is of any avail, nor can we help ourselves forward by the apparent "clearness and distinctness" of any statement or contention. We possess only one primary, ultimate criterion—evidence. That criterion is immediate: it deals with the simplest ultimate facts of consciousness, sense-data, and concepts. It is trans-subjective: there is nothing personal in our purified statements of sense-impressions and concepts. Such statements are as trans-subjective and impersonal as the principle of causality on which they pivot. Lastly, it is intrinsic to the knowing process, seeing that the evidence is drawn from intellect and sense. The criterion of evidence thus obeys the triple indispensable condition of a valid test of truth.

Our criterion is no talisman, no charm. It presents no element of ease or of suddenness. It is merely the final summary of our whole outlook on the theory of knowledge. From first to last it rests for all its cogency upon our treatment of the validity of knowledge, which in turn depended upon our proof of the existence of a real world. That proof represented

the synthesis of all our early findings, concerning the existence of conscious states, and the search-principle of causality. Thus from the moment we set out to cast suspicion, it might be, on the first principles and the causal law and found our task beyond the range of human possibility, we have been preparing to make this one statement. The only sure guide in the maze of things, the ultimate criterion of all truth, is evidence.

What, then, is to be said of the other criteria that have been offered in such abundance? With all deference to the philosophers, who have laboured often with much skill in the application of their tests, we would maintain that evidence is the one and only ultimate test of truth. In so far, therefore, that their conceptions have involved the collection and manipulation of data, they have been near to us, at least in spirit. In so far, however, as they have wandered outside the domain of knowledge in search of a criterion such as intuition, they have unfortunately laboured in vain.

Secondary Criteria.

Apart, however, from the one final standard of evidence, there are a multitude of secondary criteria of great value and importance, which have been brought to light in contemporary systems. It is not always possible to collect all the relevant data, nor to articulate the parts into one whole. Life is short, and many propositions are not of sufficient importance for thought or action to warrant so great an expenditure of labour. In order, therefore, to keep ourselves "afloat on the stream of experience," it is well to have secondary criteria. We cannot "document" every statement, analyse every theory, nor inquire into the evidence of every fact. The secondary criteria will enable us to adapt ourselves, suitably, pending the final appeal to evidence.

Among those criteria, we may mention that of the Pragmatists and Humanists, which is found in the general adaptability of a supposed truth to life and action. If any belief consoli-

dates our thought, interprets our experience, and inspires us to live and act with greater ease and happiness, we may say that there is strong presumption in favour of its truth. Similarly, we might mention the criterion of the great Idealist school, which is sought in coherence and comprehensiveness. If no internal discrepancy can be found in a given proposition, and if it allows itself to be integrated with ease into a fuller and more inclusive system, there is a strong a priori assumption in favour of its truth. Briefly, if the absence of contradiction shows that a belief is possible, and if its power to synthesize the varying elements of experience is sufficiently comprehensive, that belief is probably true. For ordinary life, and as a first test of philosophic tenets, probably nothing more valuable has ever been suggested than this joint criterion of consistency and comprehensiveness.

Thus it would be possible to show that a large number of diverse epistemologies may be utilized by us all in the "court of first instance," where those opinions are formed which are to keep us in touch with life and thought. These secondary criteria, one by one, however, lead us to an inspiring assumption, a high probability, a strong presumption, and not to an irrefragable certitude. To establish those identities or conformities, which we style truth, so that they shall be beyond all cavil and question, there is only one means at our disposal—the method of evidence. *The secondary criteria are tests of probability: the primary criterion is the test of truth.*

Evidence the Criterion of Certitude.

At the opening of this chapter we considered the nature of certitude, and found that it had no separate criterion of its own; that the test for our valid certitudes was exactly the same as our test for truth. We may now see that evidence is the only ultimate criterion of them both. Certitudes, whether intrinsic or extrinsic, whether, that is to say, they make appeal to immediate data, or rely upon some motive of credibility in the knowledge or experience of another, may all be tested by

evidence. An intrinsic certitude, expressed in a judgment, will obviously be examined in exactly the same way as a supposed truth. Are the identities or conformities, which are asserted, borne out by a scrutiny of the facts? That is the only relevant question.

Similarly, an extrinsic certitude must be scrutinized with even more care: for in this case, we are committing ourselves to an unverified and sometimes to an unverifiable statement. We should be most exacting in our examination of the motives of credibility in the particular witness or authority. If the statement is of any importance, for individuals or men, we must review all the known facts as to the authority in question, scrutinizing his credentials with an eye for every unpleasant possibility. If our last question is answered satisfactorily and our last doubt silenced, we can only apply one further test. We may sometimes check the reliability of the witness by the secondary criteria of consistency, comprehensiveness, and adaptability to life and thought. Briefly, an extrinsic certitude, depending upon our belief in some authority, can only be controlled by the extrinsic evidence of his credibility and not by a satisfying intrinsic review of the facts on which the statement rests. If, however, our review of this extrinsic evidence excludes all reasonable doubt as to the credibility and reliability of the authority, we may possess our extrinsic certitudes in all fearlessness with the fulness of human conviction.

What Part is Played by the Will?

But what part does the will play in the making of our certitudes? "As your theory stands," a critic may say, "it looks almost despairingly intellectual. Intellect, no doubt, is the pioneer, but cannot the will play some important part? Habitually in ordinary life, the will seems to do a great deal of the grappling and holding of our convictions. We think with a purpose, and the purpose is declared by the will. Why, then, is the will so mercilessly excluded? Such unrestrained intellectualism is almost inhuman."

Our reply, though brief, must be careful. *The will cannot make or unmake truths: it ought not, therefore, to make or unmake convictions.* People, of course, often solve questions by an act of the will; often prove things that they *wish* to prove; often settle their certitudes by their desires. The fact cannot be denied, but it only shows the prevalence of caprice and wilfulness. What have our desires to do with the nature or qualities of things, or with the truth of the propositions concerning them? We desire, it may be, to defend some theory, to justify some cause, to cast suspicion upon some opponent, to crush some adversary. All these desires may be eminently good. They ought not, however, to play a part in the collection or sifting of any evidence. In the search for impersonal, trans-subjective truth, they are not only irrelevant but harmful.

These tend to distort the mind, to vitiate our judgments, to lead us into the most insidious and prevalent fallacy of emphasis; in a word, to make partisans and advocates instead of philosophers. We serve the cause we have chosen rather than the cause of truth. Under the stress of our desire, we begin to pick and choose our facts, and to be content with those which seem to support our claim. If our unpleasant fact cannot be denied, we "interpret" it, whittle or explain it away. We begin to care nothing for principles. In so far as they help us, we refer to them with deference and even enthusiasm. Nothing is of any value which does not immediately serve our turn. However lofty our motive, however excellent our claim, we use what have been well called "the natural defences of error and the significant emblems of a bad cause". Desires, if allowed to play any part, are too insistent, too masterful. They twist and turn, bend and break.

Yet, in spite of all, our wills are indispensable in the prosecution and attainment of truth and certainty. They must "steady" our minds, and direct our thought; aid, in other words, in the joint work of attention and concentration. For the rest, one desire is required of us, to wit, the desire to sup-

press all prejudices and prepossessions, all "predetermined aims and foregone conclusions"—the good-will to search for truth. There must be no filling in the gaps in our evidence by an act of the will, no "urge" of the will out beyond the frontiers of the ascertained truth. Nietzsche speaks somewhere of "the lust of the will to procreate and grow". The will can indeed procreate. Its child, however, is Desire and not Truth.

The rôle of the will in all our certitudes, whether extrinsic or intrinsic—whether we scrutinize the credibility of an authority, or the credibility of some proposition—is important, though wholly subordinate. It may aid in the necessary work of attention and concentration; for the rest its only desire should be not to defend but to inquire, not to support a claim but to discover the impersonal truth.

In our discussion of certitude and truth, we have presented our readers with no "Pisgah-Sights," no great vision of the world from some Mount of Illumination. There is no criterion known to us whereby we may justify Browning's mighty vision:—

Over the ball of it,
Peering and prying
How I see all of it,
Life there outlying.
Roughness and smoothness
Shine and Defilement,
Grace and uncouthness
One reconciliation. . . .

Our Criterion, that of the Natural Sciences.

Our duty has been to deliver no inspiring message, but to suggest a painful, laborious process whereby truth may be attained. Truth, that shall prove irrefragable, is our untiring quest in philosophy, and to secure our truths we need a criterion. We have suggested the unfailing criterion of evidence. Historians, physicists, biologists, ethnologists, in fact all who pursue the study of natural science or history in any of their myriad branches, as well as the lawyers, have long

since adopted this ultimate test to which we make appeal. Philosophers, often enough neglecting evidence, have sought their tests elsewhere. The sciences that have clung to the cause of evidence as their only guide, have progressed with giant strides within the last few centuries. Philosophy, during the same period, has progressed but little. Philosophers show lamentably little unanimity on questions of principle and method, and little enough on questions of ultimate fact. The appearance of a *new* system of life and thought, of a totally new vision of men and things, is no more surprising to us now than the publication of a new book of verse. Philosophy, a thing of oscillations and revolutions, has fallen on evil days. The stream of wisdom is losing itself in the sands. And the reason? Among many reasons, there is one of paramount importance. Philosophers have too often abandoned evidence as the one, ultimate, saving criterion of certitude and truth.

CHAPTER XI.

THE KANTIAN THEORY OF KNOWLEDGE.

WE opened our inquiry with the statement of five insistent questions. With the discovery of a suitable criterion, and a definition of truth, we have answered the fourth and fifth. Our task approaches its appointed end. Before we pass, however, to bind together our results in one last chapter on the possibility of science and philosophy, we must turn to consider the philosophy of Kant, who, in many ways, is the most formidable opponent of our whole vision of the theory of knowledge.

Presumably little excuse is needed for offering a brief statement of the Kantian system. Indeed it is almost impossible for anyone to touch the real problems of truth and knowledge without measuring his thought with that of the German philosopher. Of all the Moderns who have debated the nature and scope of our knowledge, its machinery, limitations, and validity, none has attempted so systematic, so keen an analysis. Moreover, none has so profoundly impressed the thought of future generations, of laymen, as well as the professional philosophers, who grapple with epistemological problems. The "Critique of the Pure Reason" has been echoed in the schools, and we might almost say in the market places. It has coloured the minds of those who least agree with its author. It is accountable for a deep vein of Agnosticism as to the nature of ultimate reality, and of Scepticism as to the constructive power of reason. The buoyant thought of the Greeks, their constructive reasoning, their daring speculation is no longer ours. In so many of the modern codes, reason seems crippled and bent if not broken ; condemned as in the "Critique of the Pure

Reason," to the mere articulation of phenomena. The havoc wrought by Kant is almost immeasurable. We must endeavour, therefore, to understand his system before we contrast it with our own critical realism.

Now apart from occasional subtleties, from an extravagant and barbarous terminology which here and there might well baffle the most pertinacious effort even at paraphrase, and from a few unsolved contradictions, the thought of Kant in its gaunt outline is clear. We might even suggest that it is refreshingly clear, compared with the work of the Idealists, who followed in his track, remodelling his thought, and rendering much both intangible and obscure. We shall, therefore, set out a summary of Kant's "Critique of the Pure Reason," which is nothing more than his theory of knowledge pursued in all its metaphysical consequences. Our only effort will be to interpret his thought with care and precision in our own language.

Experience for Kant a Union of one Variable and one Constant.

The main idea, running through the whole Critique, may be given as follows. The raw material, unmodelled, confused, chaotic, of experience is given in sensation, to which our whole experience from first to last is bound and chained. The whole reduction to order, the unifying, moulding, finishing, pointing of this raw material—"stoff"—is effected by certain mental processes which are not derived in any way from "experience". On the contrary these processes, which together with the sensuous "manifold" *give* us our "experience," are the spontaneous, natural assertions of our mind in the effort to unify, consolidate, and systematize the chaotic manifold of purely sensuous experience.

All our perceptions, all our separate experiences of objects, are thus functions of one variable and of one constant. The variable is the stuff of sensation, which, in all its disorderliness, would be nothing but a "Gewühl" or buzzing confusion, but which, of course, as mere raw unintelligible stuff is never

grasped in consciousness. The constant of our experience is the mental equipment of what Kant styled the a priori Forms and Categories. The forms are the intuitions of Space and Time, and the categories are not the "predicamenta" or classifications of reality of the old Aristotelean metaphysic, but "prædicabilia" or our spontaneous ways of thinking about things. These terms will need further unravelling. For the moment their main function is perfectly clear. They render what would otherwise be an unintelligible confused mass of "perishing existences" into an orderly intelligible whole, related to other elements of our experience.

If we were merely sensitive creatures "a Gewühl or chaos of appearances would fill our minds without giving rise to any distinct apprehension of objects, such as we mean by the term experience".¹ Dr. Caird in his valuable "Philosophy of Kant," after giving the above quotation, appends an extract from one of Kant's letters to Dr. Herz. There Kant says that without the play of mind, of these a priori processes "all the data of sense would give me no idea of objects, nay, would not even enable me to attain to that unity of consciousness which is necessary for the knowledge of myself as an object of inner sense. I should not be capable even of knowing that I have these sensations, and consequently for *me*, as an intelligent being, they would be nothing at all. It is true that if I make myself in thought into a mere animal, I can conceive these sensible ideas as carrying on their regular play in my soul, . . . and so having influence on feeling and desire . . . but then I should not through these ideas have knowledge of anything, even of my own state."² Experience, therefore, is as we said a function of one variable, the raw material of sensuous impressions, and of one constant, the human a priori equipment.

Kant turns away from the Variable to the Constant.

With this firm conviction that our minds themselves play by far the largest and most important, indeed the determining

¹ "Deduction" (1st edition), Part II, § 4.

² Dr. Caird, "Philosophy of Kant," p. 266.

part in all our experience—in all our knowledge, whatever it be, of the world that lies outside us—it was not strange that Kant should have turned from considering the variable to the constant. *His theory of knowledge thus transforms itself into an exhaustive study of our a priori equipment, its validity and limitations.* If all knowledge involves a set of constant, determining elements, which, though they be grouped differently, do not themselves change, it is clear that nothing could be more wise than to recoil once and for all from the old study of the “real world” to examine the human mind in its constant operations.

Change, as such, interests neither scientist nor philosopher. Each endeavours to discover changes that recur, to find some cyclic order of variability, in a word, to study constancy in and through change. The constant, throughout the whole amazing flux of human experience, was found by Kant in these mental Forms and Categories. To them he turned to solve the problems of knowledge, and in so doing, effected his “Copernican Revolution” in philosophy. Knowledge instead of revolving about reality, was now made to revolve about the human mind. The facts, limitations, and validity of knowledge were to be studied by an analysis of the minds of men, and not in the light of some relation existing between minds and the world of real things.

The centre of interest and of importance was thus transferred in his system from the outside world to the field of human consciousness. In a word, his revolution, which like many another wrought much havoc, consisted in turning our thoughts inward instead of outward in the effort to discern the validity and possible extension of human knowledge. At the close of the first book of the “Transcendental Analytic”—could any choice of terms be more inhuman or more forbidding?—Kant himself says: “However exaggerated, therefore, and absurd it may sound, that *the understanding is itself the source of the laws of nature*, and of its formal unity, such a statement is nevertheless correct and in accordance with ex-

perience. It is quite true, no doubt, that empirical laws as such, cannot derive their origin from the pure understanding. . . . But all empirical laws are only particular determinations of the pure laws of the understanding, under which and according to which the former become possible. . . ."¹ "The understanding itself is the source of the laws of nature," might well have been the watchword, the Carmagnole, and Marseillaise of Kant's Revolution in philosophy.

So much for a first glimpse at the Critique. The thought which we have tried to convey will become clearer as we proceed with the details of the system. Let us, then, concentrate our attention on the Kantian inventory of our mental processes, of our a priori equipment.

Kant's Inventory of our Constant Mental Equipment,

Our sense-impressions of themselves, yield us a manifold, an ungrouped, irregular, unstructural mass of impressions, utterly meaningless, and bewildering in their multiplicity. If we enjoyed this sensible experience alone, if, that is, the manifold was not "informed" by the mind, our consciousness would be dazed—a prey to an indescribably wild jumble of things, which would course through consciousness without giving us the least information about anything. Now this manifold is reduced to unity and given a definite coherent structure by the spontaneous operations of the mind. At the moment of receiving what would otherwise be a bewildering chaos of impressions, we assert the mental Forms and Categories, thus reducing them to coherence and order. *These mental processes are utterly independent of experience for their origin.* They are not deduced from sensible experience—how could they be?—nor from anything else. They are, therefore, styled a priori. They collaborate with the matter of sensation in the formation of all our knowledge: that is all.

Now the whole of our natural a priori equipment was divided into the two sensible Intuitions of Space and Time, and

¹ Max Müller's "Kant's Critique of the Pure Reason," p. III.

the Categories, which by the most mechanical means—Kant had something of a “clockwork” mind—are discovered to number twelve.

These Categories, the abstract forms or processes, which mould experience into an intelligible synthesis or unit are as follows. Each of the members of the conventional division of judgments into those of quantity, quality, relation and modality supplies us with three.

Quantity	Quality	Relation	Modality
(1) Unity	(1) Reality	(1) Substance and Accident	(1) Possibility-Im- possibility
(2) Plurality	(2) Negation	(2) Cause and Effect	(2) Existence-Non- existence
(3) Totality	(3) Limitation	(3) Action and Re-action	(3) Necessity-Con- tingency

Of the four types of judgment which Kant here strains to yield a uniform triple subdivision, Dr. Wallace in his racy little commentary says: “In the first class of judgments the point emphasized is the numerical extent to which the predicate is applicable to the subject; in the second, whether it belongs to it in any way or not at all; in the third, whether the assertion is made off-hand or with a condition and an option; in the fourth, whether the proposition is asserted, merely suggested, or authoritatively imposed”.¹

Like all technical classifications the list of the a priori intuitions and categories is rather terrifying until we see how they are used. Let us take a simple instance. I watch a train passing along the metal track. My whole experience may be summed up in saying that I observe a loose group of things, engine, carriages, trucks, forming one artificial whole, which occupies successive positions with regard to surrounding objects, in successive moments. There is “the experience”.

What are the elements of which it is composed? By sense alone, the matter of sensation, I was given an incoherent jumble of impressions. The Intuition of Space collaborates with this matter, “informing” it, preparing the way for the

¹ Wallace, “Kant,” p. 167.

real unification of the multifarious parts of the experience, by my understanding. Thus space is the "Form" of outer experience, just as time is the "Form" of inner experience. The Intuition of Time collaborates, like that of Space, with the sense manifold, at the moment of experience. When the original "jumble" has thus been "spaced" and "timed," we are in a position to grasp the place of the train in relation to surrounding objects, and to give this vision of engine, carriages, and trucks, a place in the flow of conscious events.

The "Forms" of Space and Time, or "a priori intuitions of sensibility," thus afford the possibility of that unity, of that synthesis of factors into one whole, which we style "experience".

Before that "experience" can be achieved, however, the operation of these intuitions needs to be supplemented by that of the intellect or understanding. Thus, by a concomitant application of two of the categories of quantity at the moment of my vision of the train, I perceived that the object was both *many* in kind, and *one* in function—or as we say, more simply, that many carriages were made up into one train. Similarly, I may apply the category of causality, and judge that the motion of the whole thing along the metal track which I observe in its successive positions, is due to a series of explosions in the engine. Other categories might equally well play a part in the final synthesis, the "whole" experience. Naturally the whole operation which Kant here analyses into its constituent factors is performed with all possible immediacy and rapidity. It is only the unravelling of what passes in the twinkling of an eye that seems heavy and cumbersome—not to say intricate.

Thus it will be seen that the underived a priori Forms of Space and Time, asserted at the moment of experience, begin the work of reducing the chaotic manifold to order. The final orderly synthesis cannot, however, be effected without the application of certain categories. By the co-operation of the "manifold" and the Intuitions of Space and Time, I am given a sensation indeed, but a mere sensation, an instantaneous

isolated event in consciousness. A whole series of these sensations, such as I might have in presence of a moving engine, would be a series of single, isolated occurrences each "blindly self-centred".

Our sensorial consciousness apart, from the work of "understanding," would thus yield us a "mere series of pulses, each pulse being unaware of the others".¹ As Kant said, "Thoughts without contents are empty, intuitions without concepts are *blind*".² The single "instants" of sensation are thus brought together by the play of mind, and welded into one compact, structural, intelligible whole. What would be a mere "jumble" is made into a series, and what would be a mere series is made into a synthetic unit of experience. That constitutes the victory of knowledge. Similarly, moving not upward but downward, we see that every synthetic unit is made up of "Space and Time" elements, which, in turn, look for their matter to the chaotic manifold of sense. *The victory of the "synthetic unity" must be achieved over the manifold of sense.* That constitutes, not the victory, but the limitation of knowledge.

In our experience, something is systematized, articulated, correlated: that something is, and, said Kant, *must be* the sensuous manifold. The constant, the a priori equipment of the mind, is simply destined to constitute "unities, orders, sequences, identities" out of the variable, the raw material of sensation. With that its function begins and ends. We shall return to this point later.

So far, at least, in this inventory of processes at which we have taken a glance, there is no great difficulty. Once realize the mechanical habit of mind of the German philosopher, his tendency to cleave two inseparable things in twain and all is easy. Keep sensation perfectly free from anything in the nature of order or coherence, and the rest runs with all the smoothness of a "barbara" syllogism.

Now let us see the particular angle from which Kant viewed

¹ Dr. Wallace, "Kant," p. 165.

² M. Müller, *op. cit.* p. 45.

the theory of knowledge before passing to review the "justification" of these intuitions and synthetic processes. Up to the present, we have nothing but an inventory or classification, and it will be obvious to every one that these mental processes, which are responsible for the whole constitution of our experience, are in urgent need of justification. One may even have a suspicion from the very beginning that the task will prove extremely difficult, if not impossible. To justify knowledge which is shown to depend upon the outside world, we have found by no means an obvious or easy task. To justify spontaneous operations of the mind which dominate, without being derived from, experience, might well seem a hopeless quest. However, we must not anticipate. Let us first see how Kant viewed the theory of knowledge.

Kant's Vision of the Variable and the Constant.

Centuries ago Greek philosophers put the harassing problem of knowledge in all its fulness. They had contrasted the particular contingent "facts" of which we are aware on sense-perception with the "universal" concepts which we find in our thought. How, they asked, was it possible that the universal should be related to the particular, or better still, how was it that a concept at once "universal," and as they sometimes held "necessary," should have any connection, however extrinsic with the world of things, which were by their nature both particular and contingent? There lies, at least, one of the problems of knowledge in all its appearance of glaring and irreconcilable contradiction.

Now one of the notable restatements of the old difficulty without any of the old Greek penetration is to be found in the works of Hume, whose thought left an unfading impression on the mind of Kant. Indeed Hume may be justly said to have provided the starting-point of the "Critique of the Pure Reason". Hume had analysed the contents of consciousness into "impressions" and "ideas". These and their complexes exhausted for him the contents of consciousness. Under

“impressions,” he includes “all our lively perceptions, passions, emotions”. “Ideas,” on the other hand, are the faint images of impressions in thinking or reasoning, or of antecedent ideas. Seeing that “ideas” are only copies of impressions, it follows that consciousness contained for Hume only one irreducible element—the impression. Those impressions he divided into sensations and emotions. Briefly for the Scotch philosopher, the raw material of all knowledge was given in sensation and emotion. By sensation we grasp what is particular and contingent. All our knowledge, therefore, in so far as it dealt with real things, was for Hume particular and contingent. Yet we do actually discover laws which we regard, at least, as universal and necessary.

What explanation of this did Hume vouchsafe? Only that experience stores up memories, and memories generate expectations or beliefs. We form connections by experience; and proceed to anticipate the future by formulating a general law which reveals just a touching belief in uniformity. In other words, Hume said that there was no means of justifying the supposed universality and necessity of any law dealing with matters of fact. How, indeed, could he hope to justify this universality, if all knowledge were reduced to sensation? How form a judgment of universal application out of elements which are sealed with every mark of distinctness, contingency, and particularity?

Against this doctrine, which if taken in sober seriousness, ruins the possibility alike of science and philosophy—indeed of anything but a museum-like collection and classification of phenomena to which might be added a number of unverified “beliefs”—Kant reacted, while admitting a sufficiently dangerous amount of Hume’s strange and almost perverse philosophy. Kant seems to have been even obsessed by the problem, as to how we could ever know or justify a universal law. How obtain a universal law from a particular case or group of particulars? This seems to be the question which Hume had set throbbing in his mind, and which drove him to

his "Copernican Revolution". But the question was not new. It was only a modern version of the old Greek difficulty.

The Famous a priori Knowledge.

Kant discusses the question in the preface and introduction to the second edition of his "Critique". With good reason he saw that sciences like mathematics and physics existed, and that in these sciences men had codified certain laws which were both "universal" in the sphere of their application and "necessary" in the sense that none could think of them reasonably and deny their validity. Thus knowledge at once "universal" and "necessary" undoubtedly existed, and Kant set himself to discover "how" and "why".

Following in the trail of Hume, he next asserted that "experience" could never give us secure, "absolute," knowledge of this type. "Experience" for him was necessarily an affair of particular events or acts which, even if collected by the thousand, can never enable us to move outside the charmed circle of particularity. A fact is a particular fact, and a hundred facts give us a hundred particulars and nothing more. Thus knowledge of the kind which is valuable in science and philosophy—knowledge at once "universal" and "necessary" without which our sciences would be mere collections of phenomena—could not, he held, possibly be derived from experience. It must be something asserted by the mind itself at the moment of experience, a concomitant, that is, and not a derivative. In other words, the secure basis of this knowledge, which is the very heart and life of our scientific and philosophic syntheses, is to be sought in our a priori equipment, in the natural operation of our mental Forms and Categories.

What particularized "experience" could never yield, the mind itself would grant us by its own native and spontaneous operations. This "knowledge a priori"—let there be no doubt on this point—is spoken of by Kant "as *absolutely* independent of all experience, and not merely of this or that

experience".¹ A page or so later, we read the statement of the theory which we have just summarized. "Experience teaches us that something is so or so, but not that it cannot be different. *First*, then, if we have a proposition which is thought, together with its *necessity*, we have a judgment *a priori*. . . . *Secondly*, experience never imparts to its judgments true or strict but only assumed or relative *universality* (by means of induction), so that we ought always to say, there is no exception to this or that rule, so far as we have hitherto observed. If therefore a judgment is thought with strict universality, so that no exception is admitted as possible, it is not derived from experience, but valid absolutely, *a priori*. . . . *Necessity therefore and a strict universality are safe criteria of knowledge a priori and are inseparable one from the other.*"²

The Famous Synthetic a priori Judgments.

We now turn to take a glance at Kant's general classification of all judgments, in which he sharpens and points this theory of our a priori knowledge. To begin with, he divided all judgments into those which are analytic, and those which are synthetic. The synthetic variety was further sub-divided: they were either *a priori* or *a posteriori*. One sometimes wonders if Kant would not have been left gasping, had he not found the terms *a priori* and "transcendental"—both of which are singularly infelicitous—in which to conceal his simple straightforward meaning. For the moment, however, we are not criticizing, but only expounding.

To his classification of judgments Kant as usual gave old names and new meanings. An analytic judgment, for him, was a merely explanatory judgment in which the predicate is contained and implied in the subject. A synthetic judgment, on the other hand, is one which extends and expands our knowledge; one in which the predicate, while not being contained

¹ Introduction (2nd edition), "Critique," Müller, vol. i. p. 399.

² Italics our own. Kant, "Critique," Introduction (2nd edition), Müller, op. cit. p. 400.

in the subject, is somehow connected with it. Thus if I say, "all bodies are extended," I make an analytic judgment, for "extension" is contained in my concept of body. There is no need to look abroad to verify it: the predicate can be "unpacked" from the subject. But if I say, "all bodies are heavy," I make a synthetic judgment, the concept "heavy" not being included in the concept of bodies. The heaviness of bodies, which I predicate, represents an addition to my knowledge, and the consequent judgment is synthetic.

The synthetic judgments are either a priori or a posteriori. Once again the idea is simple. All empirical judgments are synthetic, and since they depend upon experience are a posteriori. Thus if I say "Antwerp is a port" or "silver has lustre," I make synthetic judgments, embodying some particular fact of experience. All the ordinary judgments we make in amassing the facts or data of the particular sciences are of this variety. Lastly there are the synthetic a priori judgments, which play such an enormous part in the Kantian Critique. First, such judgments are strictly synthetic: unlike analytic propositions, therefore no amount of examination of their subjects will reveal the corresponding predicates. Next, they are a priori. They do not depend upon experience, nor flow from it. They are not contingent nor particular, but necessary and universal. They are the judgments that the mind with its a priori equipment is capable of making. Thus mathematics, physics, and metaphysics are shown to be constituted of synthetic a priori judgments. A specimen or two may be given. In physics we say that the quantity of matter in the universe always remains unchanged. Such a proposition conveys the idea of necessity, and is clearly not analytic. It is therefore a synthetic a priori judgment, according to the German philosopher. Similarly, the principle of causality is found to belong to this same group. Such a statement "that all which happens has its cause" is universal and necessary, and therefore a priori, according to the Kantian canon. It is, moreover, synthetic. One might clearly analyse the idea of "all that

happens " from now until the end of time without being able to extract the idea of cause. The principle of causality, like the principles in physics and the simplest judgments in mathematics, is then described as a synthetic a priori judgment.

It is now possible to give Kant's answer to the question that Hume had set without solving. How, in effect, can we whose experience is bound up with particular and contingent events discover laws or principles that are universal and necessary? According to Hume the principle of causality, for instance, stated in any universal or necessary sense, was a mere "delusion of reason". Kant says of Hume that "if he had grasped our problem in all its universality, he would never have thought of an assertion which destroys all pure philosophy. . . ." Hume had forgotten the existence of synthetic a priori judgments, which, utterly and completely independent of all experience, gained from the spontaneous operation of our minds their characteristics of universality and necessity. In other words, we, whose experience is indeed bound up with particular and contingent events, enjoy a knowledge of principles and laws, which are both universal and necessary, not by any collection of particular facts nor by any manipulation of experience, but by certain universalizing and necessitating processes of our very minds themselves. Such at least is the strange doctrine of Kant, which makes the whole construction of all real science and all philosophy depend upon the famous synthetic a priori judgments.

The Kantian Defence of our Mental Equipment.

So far, then, we have given a brief sketch of Kant's inventory of our mental processes, and of his vision, of the origin of the all-important "universal and necessary judgments". Now we turn to his *justification* of these a priori forms and categories, and, to be quite frank, the defence is lamentably "thin". Let us observe that we stand in urgent need of a two-fold justification, first of the existence, and secondly of the application of this purely mental equipment to the objects of our ex-

perience. Kant gives his defence in the famous "Deduction of the Categories," which of all the Critique is the most bewildering section. The deduction is not a deduction, in any ordinary sense, nor is the defence a real justification. Both, as some one slyly said, are eminently "transcendental".

Dr. Caird, in setting out Kant's problem at this point, writes illuminatingly as follows: "Experience is always, even to the ordinary consciousness a *system*—a system it may be, only in its most general outlines, but still so far systematic. Even when the sense of law and order is most defective, common experience is to this extent organized, that all *objects* are represented as existing in one space . . . ; and all *events* are represented as taking place in one time. . . . Further, while the unity of space and time is thus presupposed as conditioning all the *objects* of experience, on the other hand, presupposition is also made, tacitly if not explicitly, of the identity of the self which is the *subject* of it. Anyone may see this if he will only attempt to make the contrary supposition—that the self to which all his experiences are referred does *not* continue the same. It is evident that, in that case, there would be a complete break of connection between the two successive series of experiences, which were referred to the two different selves, and that no bridge could be thrown from the one to the other. . . . The identity of the self is, in fact, but the subjective counterpart of the unity of the world as one whole, existing in one space and one time. . . . *The problem, therefore, on this side of it, is to determine what a merely sensitive being needs to convert a series of sensations into such a consciousness of the world as we actually possess.*"¹ What the sensitive being *needs* for this purpose are the a priori categories, which are thus, according to the German philosopher, triumphantly vindicated.

Apart from technicalities Kant's thought may be expressed as follows. Every object of our experience is grasped as a synthetic "unit" within an orderly whole. It is not given to

¹ Caird, *op. cit.* p. 333 *et seq.* Italics (last sentence) our own.

the human mind to apprehend any one thing without reducing it to unity and order; nor can we apprehend many things, however dissimilar, at one and the same time, without setting up some link, however extrinsic, between them, at least for the moment of "apperception". If I look at the trees of a forest, I group them together as "many," forming a whole, within the world of experience. If I concentrate on one particular tree, I think of it as "one," within an organized whole. In either case the object of my experience must be a systematized unity. This was styled by Kant the "Synthetic Unity of Apperception," without which my consciousness would be nothing but a scene of confusion, a disorderly meaningless mass of fleeting impressions.

Now the categories perform this unifying function: their work is to unify, systematize, and to consolidate. They therefore justify themselves by doing precisely what the human mind requires. To sum up briefly, the principle of the Synthetic Unity of Apperception demands that the elements of our knowledge should be bound together into structural, orderly units. The categories fulfil the task of unification. They are therefore vindicated—the justification apparently arising from the necessity of the case, and the nature of the human mind. Like the a priori Intuitions of Space and Time, therefore, the Categories are shown to be indispensable conditions of experience.

To many it will appear, when the thought of Kant has been stripped of all its ambiguities and high-sounding phrases, that the a priori equipment is "justified" because the mind happens to work that way. We had thought that philosophers endeavoured to criticize and justify the operations of the human mind—above all, to discover reasons for their supposed validity. Kant's "criticism," when all is said and done, is slight. According to him, the whole of the "universality" and "necessity" of certain judgments, of the laws of physics and of the principles of philosophy springs from the intimate structure of the mind. That intimate structure is justified be-

cause—well, because!—the mind works that way, and on the whole seems adequate to its own requirements. All told, it is a simple solution.

The Limits of Valid Knowledge.

"Le revers de la médaille," however, shows the severest possible limitation of knowledge. The categories that can build structural "experience" units out of the manifold of sense, can do nothing else. To the manifold of sense our thought is therefore inexorably bound. As Dr. Wallace says: "The two factors of knowledge (the manifold and the a priori equipment) restrict and modify each other. Within the range of experience, the senses impose their limitation upon the wide but vacant forms of pure thought, and any employment of thought apart from its modification by sense is declared to be illegitimate. We only know quantity in the sensible shape of number, and causality in the sensible shape of sequence."¹ But the words of Kant himself are even more significant, when he suggests that the cause of speculative reason is utterly broken. ". . . The greatest and perhaps the sole use of all philosophy of pure reason," he says, "is, after all, merely negative, since it serves not as an organon for the enlargement (of knowledge), but as a discipline for its limitation; and instead of discovering truth, has only the modest merit of preventing error."²

One might almost append to this extract Hume's famous, dashing condemnation of constructive metaphysic. ". . . When we run over libraries, persuaded of these principles, what havoc must we make! If we take in our hand any volume of divinity or school metaphysics, for instance, let us ask, does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it, then, to the flames; for it contains nothing but sophistry and illusion."³

¹ Wallace, "Kant," p. 178.

² "Kritik," ed. Hartenstein, p. 256.

³ Hume, "Enquiry Concerning Human Understanding," sect. xii.

The Great Renunciation.

Kant's reason for making "the Great Renunciation" runs as follows:—

The whole "justification" of our a priori processes, of the operations of our understanding and our mode of thought, turns on their ability to co-ordinate the "stuff" that is given us in the manifold of sense. They co-ordinate and give us "experience" which is purely and wholly phenomenal. Beyond "phenomena" we can never go. Seeing that our mental powers are limited to the grouping of our phenomenal sensorial experience, we can never by any chance push our analysis into the nature of things; into the noumena, which "lie behind" the phenomena. It is useless, therefore, to try to "get at" a material world, which would "cause" our impressions, or even to "get at" a personal self which sets up our trains of thought. Neither the outside material noumenon, nor the inner personal self are phenomena, *and we are tied, hand and foot, thought and sense, to the phenomenal order.*

To "get at" these ultimate realities we should require "to step out of consciousness at both ends,"—which we cannot do—and then even if brought "face to face" with these new realities, or noumena, we should require, before grasping them, some new "noumenal" instruments of knowledge, which we do not possess. *Our cognitive instruments are all phenomenal.* We have no mental equipment capable of grappling with the problems of ultimate reality. The influence of Hume is obvious. We are simply faced with the Humian scepticism as to the whole constructive play of reason: only Hume's theory has been given a certain amount of "stiffening" with regard to the range and character of our phenomenal knowledge.

The whole theory leads to a condemnation of speculative work of reason, and incidentally to the ruin of the cause of philosophy. When once the human understanding has played its part in grouping and synthesizing the elements of our phenomenal knowledge, the reason, as Kant saw, steps

in and *endeavours* to consolidate still further, by penetrating to the ultimate causes of things. Our dream is even to grasp things in terms of their ultimate constitutive principles and causes, and our reason unflinchingly attempts to fulfil the dream. There is thus ever an "urge" of reason out beyond all phenomena. We seek an unconditioned absolute basis for all the phenomena that are known to us. We endeavour indefatigably to track all our experience back to realities, which as such have never by any chance fallen within our experience.

In three distinct ways, said Kant, the reason attempts to prosecute its hopeless task. It seeks an unconditioned permanent basis or background for all the internal fleeting facts of consciousness in some enduring reality, styled a soul. The unconditioned basis of all phenomena, which are related to things outside us, is sought in a group of substantial realities or "things-in-themselves"—in an extramental world of persons and things. And lastly, the unconditioned basis of all, of everything that is, of the soul and of the totality of things, is sought in God. The reason cannot rest in phenomena: it is "outward bound": it gives rise in us to these three "Ideen," of the soul, the world, and God.

The reason thus sets up "ideal" solutions of three problems, one psychological, is there a soul? one cosmological, is there a real world of noumena? one theological, is there a God, the unifying source of all the diversities of existence and operation? Such ideas are eminently useful, and even necessary. They express the mind's obligation to unify all the details of experience. They are the "limit" towards which all the hundred lines of our experience tend to converge, *but as such "the ideas" can never be reached, never proven.* If we try to prove them we involve ourselves hopelessly in "paralogisms" and antinomies; we move in circles and prove contradictories.

How indeed could it be otherwise for Kant? We have only phenomenal experience, from which certain collaborating

a priori Intuitions and Categories can be extracted and isolated. But their range of application is limited to the phenomena, to the manipulation and systematization of the sense-manifold. If we attempt to prove a soul or the existence of God,—noumena, be it noted, and not phenomena,—we strain our cognitive instruments, which in consequence play us false by working up spurious syllogisms and proving contradictory propositions. Thus, to quote Kant's fourth "antinomy," we can prove:—

1. "There exists an absolutely necessary Being, belonging to the world either as a part or as the cause of it."

2. "There nowhere exists an absolutely necessary Being, either within or without the world, as the cause of it."

And the reason? Obviously any "proof" of a necessary Being would depend upon the principle of causality, which Kant held to be just one of many synthetic a priori judgments. That principle, like all else that is a priori, is valid for "experience," but once pushed beyond the range of phenomena, who shall say? How apply it outside of the fields of human experience to a necessary Being? No! our reason can only suggest inspiring "Ideen" which it cannot possibly help us to prove. Beyond the frontiers of phenomenal experience of the ordinary things of space and time, we can never move with any security. Above all there is no guarantee, once beyond those frontiers, that we are not wandering hopelessly. We have no compass, no chart, no maps, no sense of direction, no knowledge of sun, moon, or stars, that can help us in the strange noumenal world that lies beyond our ken. All the supposed "proofs" that we erect in that noumenal world are scientifically impossible—indeed worthless. We have styled this doctrine "the Great Renunciation".

Reason a Sentry and a Policeman.

Yet in the Kantian code the reason had one other very important function. Admitting our own incapacity to scan the nature of ultimate reality, we are convinced immediately that

no other reason can have any better fortune, once it wanders out beyond the confines of space and time. This "proven" incapacity of our reason may therefore shatter at a blow, or rather explode from the very foundations, every philosophy which pretends to discuss the inmost nature of things by speculative arguments. Our reason, therefore, has one great "regulative" duty,—to police the fields of the supra-sensible. It must prevent all trespass in those fields by speculative thought, which, apparently is something of a tramp and vagabond. It may thus prevent any intrusion into philosophy, either of those who affirm or of those who deny by speculative proofs the immortality of the soul, or the existence of God.

As Kant said: ". . . There is no room for real polemic in the sphere of pure reason. Both parties beat the air and fight with their own shadows, because they go beyond the limits of nature where there is nothing they can lay hold of with their dogmatic grasp. They may fight to their heart's content; the shadows which they are cleaving grow together again in one moment, like the heroes in Valhalla, to rejoice anew in their bloodless contests."¹

Metaphysic, in other words, could no longer be the natural foundation of religious belief or of ethics, though, on the other hand, it could not destroy any belief. The old "science of being" is thus, in Hume's violent phrase, "committed to the flames" as so much "sophistry and illusion". Metaphysic might declare the invisibility and inaccessibility of ultimate reality to the speculative reason. That is all. Around the world of reality, where our hopes and longings are stored, there is thus placed by Kant's very criticism of the scope of human reason, a sort of "Magic Defence," "a Bulwark of Invisibility," so that "the sword of the sceptic and the battering-ram of the materialist fall harmless on vacuity". The speculative reason, in thus "policing" the fields of the supra-sensible, might keep the way open for the practical

¹ Kant, "Critique, Discipline of Pure Reason," Translation, Müller, op. cit. vol. ii. p. 648 (one or two changes).

reason. For according to the German philosopher, where the Speculative Reason fails, the Practical Reason succeeds. It solves the "real" problems, or at least those that are necessary for life and religion, by an act of faith in certain postulates—ultimately by an effort of the will in the presence of certain almost overmastering facts.

Practical Reason to the Rescue.

So far we have given some synoptic account marred by the absence of all detail of the "Critique of the Pure Reason". In the succeeding "Critique of the Practical Reason," Kant gave his system of ethics, which he had already expounded in his "Groundwork of the Metaphysic of Morals". We may suggest the main outline of his thought very briefly, in order to realize the success of the Practical Reason, in coping with the otherwise inaccessible world of noumena or ultimate realities. As far as the Speculative Reason is concerned those realities enjoy, as Jacobi said, a significant "otium cum dignitate".

For Kant the principle of morality must exclude all material, sensuous, egotistic motives. All these are reducible to the desire for personal gratification or happiness, which according to the immediate testimony of our conscience, is, in this strangely inhuman system, declared to be directly opposed to the principle of morality. That principle for him rang challenging forth in the command, "Act so that the maxim of thy will can at the same time be accepted as the principle of a universal legislation". In this typical command, which he calls also the "Fundamental Law of the Practical Reason," reason issues its decree to our sensible desires to follow the laws of the moral code. This principle or law is promulgated within us by the minatory, imperative, categorical "voice" of conscience, which issues its succinct unequivocal orders. There is nothing of exhortation, nothing of a maxim of prudence, nothing of a council of perfection in this solemn "Categorical Imperative": it is unconditional, decreeing simply "do this," "avoid that". In this Categorical Imperative, man

in his character as a rational nature, a noumenon or "thing-in-itself," gives laws to himself as a sensuous being or phenomenon.

Through the unconditioned imperious decree of conscience, Kant found a way into the heart of reality. Just as the "Critique of the Pure Reason" shows the disciple of Hume, so the ethical code shows the son of a deeply religious, pietist mother. The philosopher who had proved so exacting, so meticulous in handling the speculative reason, and discussing its validity and limitations, now yields easily enough to his ingrained desire to find some rational basis for his belief in God, freedom and immortality. The sceptic of the Speculative Reason becomes the dogmatist of the Practical Reason.

God, Freedom, Immortality.

The Categorical Imperative on being analysed is found to contain implicitly, under pain of being meaningless, the three great postulates, to wit, the freedom of the will, the immortality of the soul, the existence of God. These Kant styled, with his usual "flair" for cumbersome, ugly phrases, "the Postulates of the Pure Practical Reason".

Briefly his thought runs as follows: What would be the significance of the imperative judgment of conscience, if we were not free to disobey its commands? The very existence of a command, therefore, forces us to assume that "the sensuous part of our being can be determined by the rational part," in other words, that the will is free. So in the same way the postulate of immortality flows from the same categorical imperative. The moral law demands perfect conformity of the will to the command of the Categorical Imperative, for no other reason or motive than that the command is given. Such complete "holiness" is never attained on this side of death: we at best attain not to "holiness" but to virtue. There is a constant tendency to mix our motives, to lapse from our high calling which is to follow the Categorical Imperative blindly, fully, obediently, and to allow some lower motive of

pleasure or happiness to play a determining part in our actions. The Categorical Imperative which demands this perfect conformity of the human will, therefore presupposes an after life, in which that conformity can gradually be attained. Briefly, the Categorical Imperative demands the immortality of the soul.

Lastly, the Categorical Imperative gives rise to the postulate of God's existence. It commands and we are free to obey. But this virtuous action of ours, which is performed without any backward glance, without any reference to our pleasures or desires, in simple obedience to this imperative "thou shalt," does not necessarily lead to happiness. Virtue is not its own reward, and the right ordering of things demands that there should be complete harmony between moral worth and happiness. The reward of virtue is not meted out in this life, where sorrow is insistent and happiness a "will of the wisp". That reward, expressive of the complete agreement between morality and happiness, must be meted out in the life into which we shall be ushered "by the throbbing impulse we call Death". Briefly, the Categorical Imperative demands a supreme intelligence that shall establish the ultimate harmony of morality and happiness, an infinite judge who shall reward disinterested virtue, in a word—God.

Thus by a strange dogmatic legerdemain, Kant "unpacked" all that he most desired and most needed from the imperative dictum of conscience. His thought shows no trace of the "Copernican Revolution," and little enough of critical acumen. On the other hand, it reveals the well-known instinct, the hurried reasoning, the uncritical, sweeping, onward rush of the dogmatist. It is not our purpose, however, to delay over this section of his philosophy. Suffice it to say that these three mighty postulates were all supposed to flow from the very existence and nature of the Categorical Imperative. Those postulates cannot be proven. Proof would involve the play of the Speculative Reason, which is chained to the domain of phenomena. The postulates deal with ultimate non-phenomenal

truths. They are therefore above and beyond proof. We thus accept them by an act of faith ; by an act of intelligence, that is, dictated by the will in presence of commanding motives of credibility. One cannot help hoping that Kant's theses are better than his "proofs," that his beliefs are better than his defence.

Summary and Conclusion.

With this brief summary we may close our review of Kant's philosophy. From the numerous points of detail, from all the distressing inhuman terminology, let his thought stand out in high relief.

He begins his system by denying a real cognitive character to sensation. He proceeds to find the power of ordering and systematizing these scattered, unintelligible fragments of sense in the a priori mental processes, which do not and cannot spring from "experience". So far from springing from "experience" they form an integral part of experience itself. As a necessary complement of the sensible manifold, these mental processes can only be validly used to inform that manifold "matter". They are incapable of helping us to understand "things-in-themselves". Speculatively we may never grasp the nature of ultimate reality. Speculatively we cannot solve the great outstanding problems of God, freedom, and immortality, which philosophers for centuries have regarded as their supreme task. The Speculative Reason, acknowledging its failure, steps aside and makes a courteous bow to the Practical Reason. The Practical Reason, in order to safeguard the very existence of morality, establishes its postulates, which it accepts by any act of faith. . . . For the rest Kant's thought has been greeted with the applause of a whole century of philosophers.

No philosopher ever dealt a more cruel blow to the human reason than Kant. Sceptics, before the German philosopher, had tilted at knowledge, had coined epigrams and had even marshalled a small company of arguments. They had languidly

expressed doubts, rejoiced in insurmountable difficulties, and asked their old imperturbable questions. But Kant had done more. He had given a careful, neatly articulated system which led to the ruin of all philosophy. For if philosophy cannot deal with ultimate problems; if all our search principles and thoughts are applicable only to the realm of phenomena, of sensations; if metaphysic, in the Aristotelean sense of "a science of being," is impossible: *then philosophy reduces itself to a criticism of the limitation and validity of our phenomenal knowledge.*

Philosophers have understood the implications of the "Critique of the Pure Reason" only too well. For a century they have "danced around the Ancient Idol," the problem of knowledge. In desperation they have sought emergency solutions, and above all, emergency criteria. Real philosophic construction has for the most part been stifled, and the questions of truth and knowledge have tended to recur at every hand's turn, as though to bear witness to the mental strain induced by these "anguishing" problems. Worse than all else, the subtle Kantian scepticism has settled down over many generations of philosophers. Even when they have grown most categorical in their assertions, one feels the "sous-entendu" that these theses are valid merely for the realm of phenomena. Of reality who shall speak? All the daring speculation, the élan, the solemn belief in the power of the reason to cope with reality, to solve the mighty, basic problems of life and thought, in a word, all the vision of the Greeks has departed.

As we read the "Critique of the Pure Reason," we almost hear the bolting and barring of our prison doors. We see the prison bars and hear all too clearly the "clank" of the heavy chain. Apart from Heine's mad parallel between Kant and Robespierre, there is not a little truth in his summary of Kant's philosophy. "In truth," Heine wrote, "had the citizens of Königsberg divined the full meaning of this subversive, world-bruising thought, they would have felt before

the man a far more gruesome awe than before an executioner—an executioner who puts only men to death; but the good people saw in him nothing but a professor of philosophy, and when he strolled past at the appointed hour, they gave him a courteous salute, and, it may be, set their watches by him.”

CHAPTER XII.

THE KANTIAN THEORY OF KNOWLEDGE: A CRITICISM AND A PARALLEL.

Now that we have stated Kant's theory of knowledge, we turn to criticize it. From first to last our most important and most destructive criticism of that epistemology lies in the fact that it fails to achieve its object. It imposes the severest, and as we hope to show, most unnecessary restrictions on our play of thought and our speculative capacity, and then fails even to justify our supposed knowledge of a purely phenomenal character. While, therefore, we are by no means blind to the keenness and accuracy of much of Kant's thought, to his undoubted genius and sincerity, to his desire for a full and impartial inquiry into the merits of our knowledge, we are forced to add that his vindication and limitation of our human knowledge are the one insufficient, the other unnecessary. Our criticism is severe. It entails a condemnation, in the name of ultimate facts and indubitable principles, of the whole "Copernican Revolution".

No Justification of the Mental Processes.

Let us for a moment grant the whole Kantian analysis of our a priori mental equipment into the Intuitions of Space and Time and the twelve "Categories". To say that the mind works in this particular way, by an interplay of these several processes is one thing: to show the validity of those processes is quite another. To remark that we are bound to synthesize the elements of our knowledge into units, under pain of turning the fields of consciousness into a wilderness of "perishing

existences" and sporadic impressions, is an interesting observation. To add that the a priori Forms and Categories effect these unities out of the chaotic manifold of sense is still more interesting. But to conclude that the whole range of these a priori processes is thereby vindicated, is a strange non sequitur. They build synthetic units: yes. But are the syntheses correct? Are the units of experience properly built? The question itself shows that here we touch the essential weakness of the Kantian system. It lacks anything like a criterion. In spite of all its elaborate apparatus, it provides nothing wherewith to distinguish valid knowledge from its opposite.

The person who suffers from illusions or even hallucinations builds units, moreover synthetic units, out of his "experience". Is it necessary to add that in such a case the whole structure is perverse, the use of the principle of causality wholly indefensible? The power of a thought to build up a unit of experience out of a chaos of impressions, does not necessarily imply its truth or validity. Equally well, the power of Kant's a priori Forms and Categories to build structural wholes of our experience, cannot of itself solve the problem of their validity. What we require is not a mere statement that the human mind works spontaneously in these ways. We are on the track of some permanent and basic reason why the mind must operate in these ways, and why the operation is justified.

The case of the man in an asylum who lives and dies convinced that he is the great Napoleon should never be forgotten. His consciousness is not in the very least a distracted wilderness nor a prey to a wild jumble of impressions. He forms units of experience by the hundred, construes the stooping of a servant into an act of homage, the delivery of a letter as a "coup d'état". Everything in his life is read in terms of his central and insistent conviction, and everything at the same time is strangely even wildly misunderstood. Worse than all else the whole metamorphosis, which cuts this pseudo-Napoleon off from the race of men, is due, psychologically, to an a priori conviction—Intuition, Form, Category,

what you will—which is “wholly independent of experience”! The Kantian Forms and Categories even though they build “experience” units are obviously in urgent need of justification.

No Justification of these a priori Processes is even Possible.

Now if those processes are a priori, no justification is possible. We have already found it difficult enough to justify mental processes which depend upon experience. But what can be said of Kant’s a priori equipment of Intuitions and Categories? They are, a priori, independent of all experience, concomitants, as we have said, and not derivatives. As Kant himself declared they are supplied by our own faculty of knowledge, “a supplement” to the raw material of our sensuous impressions. If, therefore, they are really a priori, concomitants, or supplements of experience, how can their validity be discussed? We might possibly show that the human mind naturally works in these particular ways, but that, as we have seen, is no justification. Moreover, no appeal to a “consensus generis humani” can be of any avail. If one mind can err, so may a dozen, a hundred, and so may all, as we find often enough in the history of physics and astronomy, before the real Copernican revolution. Naturally we should be the last to deny that the discovery of identities in the operations of many different minds may raise a high probability in favour of their legitimacy. Unfortunately probabilities are not our quest in epistemology: we are in search, indeed on the track, of irrefragable certitudes which alone can yield a solid foundation to all our knowledge.

Let us consider this point in a little more detail.

It will be remembered that Kant’s mind has been rudely “awakened” from its “dogmatic slumber” by the thought of Hume. While not in the least following the Scotch philosopher, in denying the possibility of universal judgments concerning matters of fact, Kant had been challenged to justify their existence. Whence the necessity, whence the universality of certain judgments in mathematics, physics, and philosophy, in

face of the never-ending contingency and particularity of the facts of life? Kant, as the result of a long inquiry, concludes that those very characteristics of necessity and universality are "totally independent of experience"; that they spring from the universalizing and necessitating a priori processes of the mind, which, it will be remembered, is "the source of the laws of nature". None saw more clearly than the professor of Königsberg that the whole corpus of our knowledge, science, and philosophy alike, depended upon these judgments which are sealed with the strange marks of necessity and universality. So far his analysis is admirable, his vision perfect. Our gravamen against him is that his defence of these judgments is insufficient; that, in consequence, our knowledge is not vindicated.

Philosophy, after all, seeks to interpret our experience fully and systematically. Now judgments underived from experience, as for instance the principle of causality—we speak a Kantian thing—cannot possibly help us to interpret or to systematize, with any feeling of security, that experience. Before that principle could be of any value to us, we should need to be assured that this a priori work of our understanding was a genuine presentation of the truth of things, or briefly that our minds were constituted to grasp reality. Kant's philosophy can give us no such assurance. Indeed it cuts off the very possibility by affirming the unknowableness of reality. All these great a priori judgments are an addition to experience, something over and above, or at best a concomitant. *They therefore cannot possibly give us a valid or sufficient basis for universal and necessary judgments about the facts of experience.*

In setting up a whole series of a priori processes, and then applying them to the raw material of sense impressions to obtain our phenomenal knowledge, Kant showed himself a real dogmatist, in spite of all his protestation. He assumed, in other words, that the mind was so constructed as to understand not reality indeed but phenomena. Such an assumption is Dogmatism. All he had a right to assert is that the mind makes up structural units of experience. The next question obviously

is, are the processes legitimate, or the "units" valid presentations? As we follow the "Critique of the Pure Reason" through "Transcendental Deductions" and "Synthetic Unities of Apperception," we are perhaps inclined to lose our way. The simple fact remains. *Kant did not answer the all-important question.*

We, for instance, found that it was impossible to doubt the existence of a given number of certitudes in the mind. For better or worse they cling like so many burrs. But we did not hurriedly assume their validity, or affirm that the mind is so constituted that it cannot fail to know justly. In other words, throughout our theory of knowledge we have attempted to be severely critical; we have allowed no dogmatist assumption to shorten or to mar our inquiry from end to end. So much for the insufficiency of the Kantian defence of the universality and necessity of the basic judgments of our knowledge.

Kant's a priori Refuge Unnecessary.

We now turn to our second point. Not only is the defence insufficient: it is also unnecessary. It is not necessary, as Kant thought, to have recourse to a priori processes in order to defend the necessity and universality of certain principles or judgments. Kant worked under the immediate influence, we might almost say the immediate fear, of Hume's thorough-going empiricism, with its attendant sceptical bias; and he put together his "Critique of the Pure Reason" with all its revolutionary procedure, in the desperate attempt to defend the possibility of science. We who are thinking several generations later, harassed by no fear of Scepticism, may see other possible solutions than the emergency-exit of a priori knowledge.

An extra-mental world of diverse realities exists.¹ Those realities act immediately upon our sense-organs, and mediately upon our intellectual capacities, yielding the conscious events known as sensations and thoughts. The thoughts are never

¹ Cf. chaps. vi. and vii., "The Existence of a Real World" and "Our Grasp of Reality".

particular ; the sensations are never "general" or "universal". The two cognitive processes co-exist giving us knowledge in the forms of thoughts which are communicable, and in the form of sensations which remain and must remain our own inalienable property. Now the plain truth is that the mind in presence of the individual reality thinks in general terms : in presence of the particular, as we sometimes say, it thinks the universal. Intellectually we can never grasp the individual or particular as such.¹ In presence of a grey silvery stone shot with fire, the mind thinks "opal," and the thought expressed in the term "opal" is equally applicable to all stones of the same kind that ever were or ever may be.

Nor need anyone be scandalized at this universalizing or generalizing process of the mind which is miles removed from anything a priori. Above all let none suggest that because of this strange and exclusive bias in favour of general concepts, the mind thinks of things in a way that is utterly different from their reality. Face to face with a peak in the uplands, I think "mountain," a concept which includes within its ample range all the more elevated surfaces on the face of the earth. That is the way my mind naturally works in its obstinate refusal to grasp what is merely individual. Do I "deform" reality by these general concepts? Is there a gulf fixed between knowledge and the scheme of things, in consequence, as has been asserted again and again by those who adhere to the Platonic tradition? It might seem that there was ; but only if we neglect one small fact of vast importance. *It is of the nature of things to be general, and not to be merely individual.*

The nature of any real individual thing is not, or at least need not be "sui generis". Things fall into classes and families, genera, and species, which share identically the same nature, in spite of multitudinous individual differences. There is nothing in the nature of any one man which belongs exclusively to him any more than to the thousand millions of the human race. There is nothing in the nature of a diamond

¹ Cf. chap. vii., "Our Grasp of Reality".

which belongs by prescriptive right to one particular piece of crystallized carbon rather than any other. Thus the nature of a real individual thing is general : it belongs to one indeed, but is shared by many.

Now the mind is so constructed, as we gathered in close scrutiny, that it grasps the nature of things, mediately and indirectly, gleaning its knowledge of what they are by what they do. Thus the mind, in the act of grasping a nature, which in point of simple fact *is* general, *ought* to think of it in general terms. In seizing the real nature of the individual thing, it comprehends it as a nature which is or may be shared by many other members of the same class or species. The mind, in other words, seizes the individual through its nature which is general. What could be more simple or more penetrating than this old Greek solution? Above all, what could be more satisfactory seeing that every assertion at every stage of the explanation may be proven by an appeal to facts and indubitable principles?

Nothing a priori in the Conceptual Process.

Let it be noted, moreover, that there is nothing a priori in this natural operation of the mind, in this universalizing process. It is the typical reaction of the intellect to a stimulus from without, depending therefore directly and immediately upon sensible experience—a posteriori, if one insists on this ancient jargon, to the very hilt. *All that the mind possesses apart from the data of experience is the capacity to react in presence of those data.*

In presence of individual realities, I think their general nature in general terms, while I register their particular phenomena in particularized sense-impressions. Both processes are stimulated from without—products of experience. In presence of individual realities, I abstract some quality, which being general is recorded in a term, lacking all particularity. Once again the process is wholly dependent upon experience, a

derivative and not a concomitant. By these means I am in possession of a vast number of abstract and general terms, which I permute and combine in judgments, or between which I discover similarities or differences by various reasoning processes. These are the three standard operations of intellect—conception, judgment, reasoning. By reasoning I manipulate judgments, by judgments I manipulate concepts. *From first to last my intellectual operations depend entirely upon concepts, which are drawn from experience, and which are never by any chance a priori.* The very universalizing process of our minds records our experience that things are not all different, nor all isolated, however individual they may be: they fall in groups, which all possess the same specific nature.

Seeing therefore that the human mind naturally universalizes what it grasps, and moreover universalizes legitimately, it is clear that it may form universal judgments in presence of evidence of sufficient weight. Having once seized the fact that it is of the nature of material things to be extended, the mind may formulate the judgment, that "all material things are extended". At once we find ourselves in presence of a typical proposition which is both universal and necessary. We shall later consider the general question of the validity of the inductive process. For the moment without raising the whole thorny problem of induction, we may see how it is possible, owing to our indirect knowledge of the *nature* of things, to formulate judgments that shall be as "universal" as the very nature of the things themselves.

We scrutinize facts: we amass evidence: we grasp what is common to many natures in any one object: we seize the universal aspects of things and record them in universal propositions: we say that "all things are extended," that "all things attract one another directly as the masses and inversely as the square of the distance," and so on for the typical judgments of the sciences. And the justification? It has already been given at some length in our chapter on the "Validity of our Knowledge". And the Criterion? What

could it be but evidence, a posteriori to the last degree, which alone can give us a test of truth?

Kant's recoil therefore from experience—a thing, for him, of scattered "facts," of "perishing existences," of contingent particular events—and his refuge in the a priori domain of Forms and Categories, was by no means necessary in order to defend the possibility of universal judgments. The sciences and philosophy can vindicate the most far-reaching of all their judgments and principles by an appeal to the facts of experience. Kant's procedure is therefore unnecessary. We have already shown that it is insufficient. The two epithets between them spell the ruin of the most ambitious system of philosophy.

The Great Renunciation made in Error.

So far we have discussed, and dismissed as unsatisfactory, the supposed Kantian vindication of knowledge. After the vindication came the vision of our limitation, which is equally untenable. Convinced as he was that the a priori processes could form synthetic units out of the manifold of sense, Kant persuaded himself, in some strange way, that this was their only possible function. Thought was thus bound to the mere articulation of phenomena. It might weld together what could otherwise be the scattered fragments of sensation: that is all. The Categories, if thought of by themselves, were nothing more than "Forms of possible experience," anticipations of their own application to the sensorial mass of events. Never by any chance could they help us to pierce beyond the range of phenomena.

Külpe giving his synopsis of Kant's position on this point writes: "Der Verstand kann nur die Form einer möglichen Erfahrung antizipieren. . . . Somit darf der Verstand die Schranken der Sinnlichkeit nie überschreiten . . ." but adds quickly, ". . . Dann aber liegt hier abermals eine ganz dogmatische Erklärung vor: Der Verstand antizipiert die Möglichkeiten seiner Anwendung auf Erscheinungen. Dass diese

Möglichkeiten seiner Anwendung *nur* in dem sinnlich Gegebenen oder dem Anschaulichen bestehen, wird dadurch schlechterdings nicht dargetan.”¹

Now that is precisely our point: the limitation is “schlechterdings nicht dargetan,” absolutely unproven. Even granted the Kantian idea that thought can form units of experience, why can our thought necessarily do nothing more? Why is the human mind incapable of “playing” on the facts of our experience, in order to discuss their constitutive principles and causes? Presumably Kant could answer, because all these mental processes are the a priori spontaneous operations of the mind, which are destined uniquely to “inform” and systematize the “stoff” of sensation. We observe that the reason given is only a reiteration of the original thesis, and once again we chronicle a typical assumption of Kant the dogmatist. Thus the severest limitation that has ever been imposed upon our thought in our search for ultimate truth and reality, is the outcome of an assumption.

The Roots of the Error.

Let us glance at the bases of this assumption. We have already suggested that Kant’s a priori processes do not really exist. There is nothing in the mind which is not generated or at least stimulated by something from without. All that the mind possesses, apart from the data of experience, is the power to react in presence of those data. There is no concept, whatever it be, whether it be space or time, unity or plurality, which cannot be explained in terms of experience. As we discovered long since,² the starting-point of the whole train of psychological events is to be found in sense-perception. We have indeed two kinds of knowledge, the one sensorial, the other intellectual, which differ from one another in scope and reference. The fact remains that without sense-impressions, our intellect would remain unstimulated, inactive, sterile.

¹ Külpe, “Immanuel Kant,” II Auflage, pp. 93 and 94.

² Chap. vi., “The Existence of a Real World”.

There is no concept, therefore, which results from the spontaneous operation of the mind. There are no innate ideas, nor innate judgments or principles. There is no ordinary judgment—we prescind from a few immediate indemonstrable propositions which must be treated by doubt and denial—that can escape the test of evidence. There is one ultimate criterion of truth, to wit, evidence derived from immediate experience. Briefly our whole mental output is not a priori but a posteriori; not the result of spontaneous operations of the mind, but of immanent processes stimulated by extra-mental realities; not an “addition” or “supplement” to experience, but an integral part of the experience-process; not a concomitant, but a derivative.

With this assertion of the a posteriori nature of our thoughts and judgments—the proof lies in the whole constructive work of this essay — *we break at one bound through the whole charmed circle of merely phenomenal knowledge*. If our principles and typical judgments of relation, quality, quantity, and causality are all the spontaneous assertions of our mind, it is clear that they cannot be used to discuss reality. But if, on the other hand, these principles and judgments are not in the least spontaneous nor a priori, but rather the natural reactions of the mind to the stimulus of an extra-mental reality; then at least the way lies open to show that our knowledge is not exclusively bound to phenomena.

The Summary of Critical Realism.

Now the whole of our essay, in so far as it turns on this point of momentous importance, may be summarized in the following statements:—

1. There exists an extra-mental real world of persons and things.
2. That this real world acts upon our cognitive capacities, yielding sensations and thoughts.
3. That in consequence we have knowledge—however

mediate and indirect it may be—of the real world: that we are not bound to the merely phenomenal order.

It would be interesting to trace these statements through the various branches of philosophic speculation, and to show, for instance, that the thoughts of space and time are really the reactions of the universalizing human mind to the stimulus of material reality. That reality is found to be both extended and changeful. Space is our way of grasping the extension of the whole world of matter: time our way of measuring its changes. Let the indication suffice. To discuss the question further we should need to penetrate into the domain of physics and cosmology, and, however regretfully, we must postpone that work for a later volume. We must take up the question on broader and more general lines in the present essay.

Let us remind ourselves of the nature of our knowledge of reality, in order to measure our difference from Kant.

All our knowledge, of whatsoever kind, is a posteriori. That is the great central fact. For the rest we need only gather together our former results. Our sensations translate for us the qualities that inhere in things. They translate them, moreover, into a new language. That the language even *must* be new is obvious. Knowledge which is psychological cannot be identical in all respects with reality which is physical. The translation, however, if properly grasped—if we lay aside the dictionary of the plain realist—is in every sense satisfactory. By what we find within our consciousness, we know, first, of the existence, and secondly, indirectly of the nature of the reality that lies beyond.

Now the qualities, whose effects we register in consciousness, do not merely inhere in the reality, like so many quills stuck in a porcupine. We must free ourselves from all such tyrant imagery. The qualities of things are their connatural manifestations or activities; appearances which, in very deed, reveal the nature. They even serve to define the nature. A person is defined as a being of a rational nature. By the

characteristic mark of intellect, one typical manifestation, we define a person. And so of all other things. Gold is defined as a metal, which can resist heat, moisture, and the action of the most corrosive agents, and so forth. Once again the nature of gold is manifested in its permanent qualities. In other words, the nature of things which is relatively stable and fixed is shown to us in their unchanging, permanent manifestations—determinations, properties, qualities, accidents, call them what you will—which are translated for us in the ordinary forms of knowledge. Our knowledge of the nature of things, therefore, however slight and however indirect, is none the less very real. By conscious processes we know of the qualities, and by the qualities we discern and even define the nature. By what things do, we know what they are.

Kant the Specialist in Dichotomy.

Here, then, in this series of considerations, we touch one great and far-reaching difference between our critical realism and the theory of Kant. Kant had a passion for dichotomies. Witness his cleavage of the Speculative from the Practical reason, of a priori from empirical knowledge, of faith from reason, and now of noumena from phenomena. In his system noumena or realities, and phenomena or appearance are locked in incommunicable compartments. Of noumena we by the speculative intellect could know nothing; of phenomena by the interplay of a priori processes and the "stuff" of sensation, we could know a multitude of things.

We on the other hand, by the pressure of facts, have been led to see that noumena and phenomena cannot be cut off from one another, without doing violence to both. *There is no chasm fixed between reality and its manifestations.* On the contrary, the noumenon is manifested in the phenomenon which thus gives us a true, though indirect understanding of the noumenon from which it springs. The nature is known by the manifestation, the person by his reason, the metal by its properties, the tree by its fruits. The whole difference between ourselves

and Kant may be summed up in the words "men do not gather grapes from thorns, nor figs from thistles"; that we judge rightly of the nature of things by the activities which they manifest.

It is useless to lament that we do not know things "as they are" "in themselves" —whatever the phrases may mean. Such expressions seem to reveal a desire to take a physical reality and "dissolve" it in the mind until some kind of interpenetration had been effected—a desire for the old representative particles of Democritus, which were thought to stream through the senses. If we want to find inner representatives of outer reality, let us remember, not Democritus but Aristotle; we require to "impound" no external matter, nor need any activity "migrate" from the reality to the knowing person. The person contains within himself the principles of activity of all things that he can know.¹ "ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶν πάντα."

Naturally our knowledge of the reality of things is indirect: it could not be otherwise. Indirect though it be, it allows of much scope for the play of reason about the constitutive principles, causes, and nature of ultimate reality. Kant cut the "noumena" off from their "phenomena," and then locked the noumena—the whole scheme of reality and all the questions that most interest the human mind—in some inaccessible and impenetrable region. He did a bad service to philosophy.

Kant's False Theory of Causality.

We may now pass from a broad critique of Kant's outlook, to a consideration of one detail of extraordinary importance—the principle of causality. Incidentally there are a number of ways of gaining a rapid view of any philosophic system. One is to turn to the section dealing with the "origin of ideas," by which the whole system in all its ramifications may be judged. Another way is to scrutinize the defence of the principle of causality by which the Humes, Kants, and Aristotles of the

¹ "The Nature and Scope of our Knowledge," chap. ix.

history of philosophy can be separated from one another immediately. The treatment of the principle of causality in fact is one of the most delicate points in any system of thought. And the reason is not far to seek. A philosopher endeavours to understand things in terms of their efficient, formal, material, and final causes. To work at all in realizing his dream he must be able to use the principle of causality without fear of contradiction. If this principle be not indefectible, further if it be not both indubitable and undeniable, then neither the philosopher nor his philosophy has any "*raison d'être*". If this causal law be interfered with however slightly, we lose the only instrument by which we can penetrate beyond the immediate data of the sciences. Knowledge in that case becomes a long register of facts connected together by "ands" and "buts".

Now Kant was led by the main argument of his critique to place such a severe restriction on the use of the principle of causality as to render it of no avail in building a philosophy of reality.

It will be remembered that this principle was for Kant a universal and necessary judgment. So far all looks well. Like all other judgments, however, which exhibit the marks of universality and necessity, it revealed the work of the a priori mental processes. In other words, Kant held that the mind spontaneously asserted this principle, at the moment of experience, in order to integrate its knowledge, and to set up relations between the separate elements or factors. Like all other "Categories," causality was valid only for phenomenal knowledge. It could not be applied to reality, or beyond the range of phenomena, without courting the disaster of uncertainty and contradiction.

All the speculative work about the nature of reality, all the arguments drawn from causality in favour of the existence of God, were thus condemned. It was the most cruel restriction that a philosopher has ever imposed upon our thought, without actually embracing Scepticism. To this strange doctrine may in large measure be traced the present stagnant condition

of our speculative sciences, "this pathological interlude," the lassitude and weariness of spirit that seems to have overcome the philosophers, who now set out to criticize and not to construct. Fortunately the Kantian theory of causality is demonstrably false.

As our previous criticisms have implicitly condemned Kant's vision of this all-important principle, we need only gather together a few relevant observations.

The principle of causality he regarded as a synthetic a priori judgment. It, therefore, shares the fate of all other judgments or principles that fall into this group. We have already shown that these judgments are neither sufficient nor necessary to provide a solid basis for our scientific knowledge. Worse still their use cannot be justified. On the other hand, by accepting the plain fact that all our mental output is a reaction to experience, we find ourselves in possession of a satisfactory explanation of all Kant's difficulties. As a rule the criterion for the truth of a principle is evidence. But there is more to be said in favour of causality.

Causality is unique among all principles, in having so strange and intimate a relation with the principle of contradiction.¹ The point has already been raised and settled, and we ourselves have fearlessly used the principle of causality at every turning-point in our theory of knowledge. Our proof of the existence of a real world, our discussion of the validity of knowledge, our solution of ultra-realist and idealist difficulties, have all turned upon the ultimate truth of the causal law.

Our defence will be remembered. The principle of contradiction, "that a thing cannot both be and not be," is obviously a judgment that can be applied throughout the whole range of being, to phenomena, noumena, and all things that are. Its constitutive terms show no trace of particularity; they are "transcendental" in the sense that they are as wide as the universal scheme of being. The principle is warranted by every element of our experience, affirmed at every turn of our

¹ See chap. iv., "The Principle of Causality".

thought, and in the formulation of every judgment. It is incapable of being doubted; we tried and failed. It is incapable of being denied: we tried and found ourselves affirming the principle to support its own denial. We are thus in presence of a principle, which besides being indubitable and undeniable, is applicable throughout the whole gamut of reality.

Now as we showed,¹ the denial of the principle of causality involves the denial of the principle of contradiction. Causality therefore cannot be denied, wherever the law of contradiction can be affirmed. Causality gives the law of change: contradiction gives the law of being. Thus wherever there is a being that changes, whether it be phenomenal or real, whoever, whatever it be, the causal law is always applicable. In this strange way the principle of causality shares in the range and scope of the principle of contradiction, with which it has so unique an attachment. We may use it therefore wherever we find change, penetrating, by its aid, as far as may be into the ultimate constitution of things, and into the necessity of a First Cause, fount and origin of all efficiency and all activity.

Briefly Kant's attempt to restrict the one search-principle of philosophy to phenomena is wholly unfounded. Not until we have laid aside the whole doctrine of a priori processes and a priori judgments; not until we have abandoned the revolutionary methods of the philosophic Copernicus, shall we begin once again to lay the solid foundations of a science of being.

The Contrast in Brief.

We may now, leaving aside all questions of detail and method, bring together in gaunt contrast the leading differences between the Kantian theory of knowledge and our own critical realism.

I. Kant was convinced that the mental processes which render the sciences and philosophy possible were a priori

¹ Chap. iv., "Rational Doubt and its Results".

—independent of experience. We have shown good reason for holding that there is no such thing as an a priori mental process, that they are one and all a posteriori, dependent both for their actuation and content upon experience. The a priori processes fail to justify our knowledge. Once accept the simple fact of their dependence upon experience, and the justification is relatively simple.

II. Kant asserted, in consequence of this vitiating a priori theory, and as the result of a long and faulty technical inquiry, that we can gain no knowledge of ultimate reality by the use of pure reason. The pure reason in all its efforts was bound, under pain of getting out of its depth and floundering hopelessly, to group and systematize phenomena. We on the other hand have suggested and even shown that our knowledge of phenomena can never stop short at the phenomena themselves. Appearances are the appearances or manifestations of something, which something is none other than the ultimate substantial reality. Such knowledge of reality is positive though mediate and indirect; if tested carefully, it is both significant and reliable. Kant is an agnostic. We are critical realists.

III. Lastly, Kant held that the principle of causality was nothing more than a spontaneous operation of the mind, a coupling judgment between the separate elements of our phenomenal knowledge. We observe succession: by the spontaneous effort of our minds we divine causality. We on the other hand have shown that causality is a real, ontological principle, which may be applied fearlessly, wherever change exists, within the length and breadth of the universe of being. No change can fully explain itself. Nothing which changes, noumenon or phenomenon, reality or conscious state, can be to itself the full and adequate reason of its own transformation. This is the liberating principle of philosophic inquiry. Our endeavour in philosophy is to gauge the full and adequate reasons, the ultimate principles and causes of all being and all becoming.

The Critique of the Practical Reason Untenable.

So much for a summary of our leading differences, from which a multitude of others may be "unpacked". Let the broad outline suffice. The two theories of knowledge are thoroughly and absolutely incompatible. If we had so desired, we might have turned against Kant's "Critique of the Practical Reason," to show its dogmatic tendency, its hurried analysis, its still more hurried conclusions, and its general insecurity. We have already suggested the great outstanding difference between the two Critiques. The student of Hume wrote the "Critique of the Pure Reason," which shows lasting traces of the Scotsman's sceptical bias. The son of a devout pietist mother, bent on rescuing his belief in God, freedom, and immortality at any cost, wrote the "Critique of the Practical Reason" which shows lasting traces of his early, vehement, unanalytic belief. All the rigour of analysis, all the critical acumen, all the reluctance and vision of restriction of the critic of the Pure Reason, desert Kant the Dogmatist when he turns to build his ultimate metaphysic by means of the Practical Reason.

We, who stand to rescue philosophy, and particularly the theory of knowledge, from both the sceptic and the dogmatist, have rejected the "Critique of the Pure Reason," largely for its "scientific," unproven Scepticism. We now reject the "Critique of the Practical Reason," for its sheer unanalytic Dogmatism. The theses are excellent and even true: but the methods are insecure, the "proofs" impossible.

All our penetration of reality is effected by means of postulates founded upon the dictates of conscience or Categorical Imperative. Briefly the Categorical Imperative gives rise to three necessary practical assumptions of freedom, immortality, and God. On the ground of their necessity, we are thereby justified in the use of conceptions to which the Speculative Reason can never of itself securely attain.

First, the dictates of conscience are meaningless unless we are free. So far, so good. The Categorical Imperative does

indeed argue the freedom of the will within the domain of moral action. Secondly, the dictates of conscience are meaningless unless we are immortal. We require a never-ending existence in order to attain to complete holiness, or absolute harmony with the moral law. Why, we ask involuntarily? Why a *never-ending* existence? Why should our approximation be never-ending, like the asymptote of an hyperbola? Why cannot the identity of our will with the Categorical Imperative be effected in this life? Why, with a stern sense of duty, and a stoical sense of the splendour of obedience, could we not purge our minds of all lower sensuous motives even "on this side death"?

Or if death overtake us before this identity of our will with the moral law be fully effected, why should it not be completed in one "crowded hour of glorious life" beyond the tomb? Why, in other words, does the Categorical Imperative argue *any* persistence after death? or if it does argue persistence, why immortality rather than mere survival for a time? To all these questions Kant gave no answer, because none is possible. His wish was father to his thought in the "Critique of the Practical Reason"; his "will to believe" almost unbounded. By dint of this "will to believe" he transformed what might possibly be a *suasio* into a necessary postulate.

Lastly, the dictates of conscience lead us to postulate God's existence. The moral law commands, and we are supposed to obey blindly, without any reference to our own impulses or desires. Incidentally this is a strange, inhuman travesty of the moral law, but that by the way. Such was Kant's vision. We must act without any desire or hope of happiness, or pleasure, just because the imperious edict of our conscience has been heard. We must obey the Categorical Imperative because it commands, and for no other reason. Yet ultimately our Practical Reason demands complete harmony between virtue or holiness and happiness. It is seen to be fitting that perfect goodness and perfect happiness should coincide in the same person. Hence we must postulate the existence of

a Cause, which is capable of effecting the exact agreement in an immortal life, between virtue and happiness.

Now a cause, if this train of thought be accurate, there certainly must be. But why need morality be rewarded with happiness? Whence springs this principle, that there must ultimately be complete harmony between the punishment and the vice, the reward and the virtue? If one could prove the existence of a God, who is good, there might be something to be said for this momentous principle of adjustment. To prove God, or to find His existence a necessary postulate, by means of a principle which already involves His Providence and therefore implicitly His existence is not possible in philosophy.

And even granted the necessary existence of some Cause, empowered to effect this grand adjustment of happiness to virtue, why need such a cause be infinite? Why need it be a person? Why omniscient, or omnipotent? Why immense or eternal? Why intelligent? Why actuated by will? In other words, why need such a cause be in any sense the God of Kant's simple pietistic faith? To all these questions, once again, Kant vouchsafed no answer. In his dogmatic moods, he tolerated neither difficulties nor questions, as he swept forward towards his goal. Like many another dogmatist, his thought was not only driven forward but also blinded by his vehement desire to defend a cause which he knew to be good. The cause is indeed good; but the method of defence is not acceptable.

We have only delayed for a moment to show how Kant the sceptical critic could play the part of an unflinching dogmatist. Presumably it cannot be otherwise. Speculative problems can only be discussed and solved by the speculative reason which Kant had maimed. To attempt to solve them by means of the practical reason is to allow both feeling and will to play a part in their unravelling. Feeling and will are indeed good, but they have no part to play in the pursuit of philosophic truth.

In considering the "Critique of the Pure Reason," we differed fundamentally both from the methods and conclusions of its author. In glancing at his work on the Practical Reason, we have differed sometimes from the conclusions but more especially from the dogmatism of the methods. In order to insure against these sudden and meaningless alternations between scepticism and dogmatism, we have endeavoured throughout our essay to be severely and consistently critical. On that account we have given this general scheme of ideas, involving both methods and construction, the name of Critical Realism.

CHAPTER XIII.

THE POSSIBILITY OF SCIENCE AND PHILOSOPHY.

WITHIN sight of our journey's end, we naturally revert in thought to our beginnings. Our initial programme was suggested in five questions, to which we have so constantly turned. They have formed "the warp" of our essay, while the "woof" might be sought perhaps in our inventory of knowledge. Out of the answers to the five questions, and of the vindication of the triple element found in the inventory, our theory of Critical Realism is woven.

Vindication of our Inventory of Knowledge.

Before we began our critical constructive work, it will be remembered that we were obliged to make an inventory of our knowledge. We found that knowledge consisted of elementary data in the shape of sense-impressions and concepts, and of judgments in which those data were combined or manipulated. The judgments, on closer scrutiny, could be divided into those which were immediate—processless and indemonstrable—and those which were mediate, depending upon argument, process or proof. Summing up more sharply we find that knowledge consists (1) of irreducible data in the form of sensations and concepts, (2) of immediate judgments, and (3) of mediate judgments.

What then are our findings as to each of these three elements of our knowledge?

I. First, the immediate data of sense and intellect. We found that, if all the necessary conditions were fulfilled, *sense-impressions* might give us a true and valid, though indirect, know-

ledge of the *properties* and *qualities* of things. Further, that if *our concepts* were properly tested, they might give us a true and valid representation of the *nature* of things.

II. Secondly, the immediate judgments. As they are necessarily indemonstrable, it is useless to apply the test of evidence. Moreover, we must begin somewhere. We cannot presuppose the existence of a real world, which is involved in the very conception of evidence. Any ordinary "proof" of these immediate propositions is therefore strictly impossible. Nor can "intuition" be invoked. How shall we guarantee the accuracy of the intuition? Intuitions which, reverberating through consciousness, illuminate whole tracts of knowledge, may be right or wrong, true or false. The fulness or clearness of our "vision" of a "truth" is no test of its validity. An intuition is no more at best than a Cartesian "*idée claire et distincte*," which, in spite of all its lucidity and distinctness, may be wholly unfounded.

These immediate judgments, without which we cannot move forward one step in the theory of knowledge, are thus awkward and intractable entities. Evidence cannot be sought in their support, nor is any immediate intuition of any avail. Yet we require, before making a start, that they should be both indubitable and undeniable. There remains only one possibility. We must attempt to doubt and deny these. This is what we termed the movement of rational doubt, which brought us, by a long and circuitous route, to the conclusion that it lies beyond the power of the human mind to doubt either the three "laws of thought," or, in consequence, the pendent principle of causality. So much for the four outstanding immediate judgments of importance.

Other immediate judgments, such as the axioms of various kinds, may be tested in a similar way. But in their case there is another alternative. By means of these first four indemonstrable but indubitable propositions, we are enabled to establish the existence of a real world, and in consequence the validity of our sensorial and intellectual evidence. Hence, if we wish,

we can appeal to evidence in support of quite a large number of these immediate propositions. We must, however, refrain from moving in circles, and from destroying our own foundations. We must test "the laws of thought" and the important principle of causality, not by evidence nor by intuition, but by the method of doubt and denial.

III. Lastly, there are the mediate judgments which avowedly turn upon some process or proof. We have seen that there are many secondary criteria of their probability. There is, however, only one primary criterion of their truth, to wit, evidence.

The Accuracy of the Reasoning Process.

And yet—here we begin to break new ground—over and above the facts which evidence, carefully sifted, may attest, there remains the question of the *process* or *proof* employed by the mind in arriving at these mediate propositions. What, then, is to be said of our reasoning process itself? What guarantee have we of its accuracy? What gives us the quiet assurance that we reason correctly in formulating mediate judgments? Let the importance of this our last problem be noted. Nearly all our knowledge can be cast into the form of these mediate judgments, which depend upon some marshalling of facts, some intellectual manipulation, some deductive reasoning, some argument, process, or proof. If our reasoning processes themselves are vitiated, then, not all, but the vast bulk of our knowledge must disappear into the night. On the nature of our answer depends the whole possibility of science and philosophy. We have reached another crisis—the last.

We may put the question in another way, in order to light up a second train of ideas. Our intellects are capable of three distinct functions, which have recurred like some *leit-motiv* throughout this essay. By means of intellect, we conceive ideas, we form judgments, linking together the simpler ideas, or we reason, linking together no longer the simple ideas but the actual judgments. So far we have established the possible validity of concepts: as representatives of extra-mental natures

they may be erroneous, but the error can be tracked. Similarly, we have established the possible validity of judgments, and submitted the criterion of evidence. There remains the reasoning process; not the judgments that are manipulated, but the actual work of manipulation; not the power of judging, but the power of concluding; not the content of our propositions, but their connection and sequence; not our ideas but the "*Gang*" of our ideas, which needs to be scrutinized and defended. Is the reasoning process itself valid?

Now reasoning is of two distinct kinds, which must be considered separately. First, we may reason deductively by combining a general and a particular proposition in our thought, and then drawing a conclusion. All the possible "figures" and "moods," all the necessary canons, conditions, and laws of this deductive reasoning have long since been standardized in the manuals of logic. The possibilities of "deduction," or syllogistic reasoning, have thus been fully explored, and sometimes even exploited.

The second type of reasoning, which is all-important for life and scientific knowledge, no less than for philosophy, is induction. By this process, which has its own canons and laws, we combine, not generals and particulars to draw more specific conclusions, but particulars with particulars, in order to move forward to some general inclusive statement or law. Briefly, when we ask is the reasoning process itself valid, we mean, simply, is deduction—the *act* of deducing—possible, and is induction—the *act* of extracting general information from particular cases—licit.

Is Deductive Reasoning Possible?

Over the deductive forms of reasoning we need not long delay. Deduction is mediate inference. In a judgment—however much the doctrine may be disliked by certain philosophers—two terms are connected. The terms may be thought of separately, or jointly; if separately, we form con-

cepts, if jointly, judgments. Moreover, as we have elsewhere suggested, it is only necessary to begin to speak some unusual, foreign tongue, in order to experience the slow "heave" of the mind as it combines its concepts in judgments.

Now as a preliminary to drawing a conclusion, two judgments are taken, each containing one different and one identical term or concept. In the two judgments taken together, therefore, two separate and distinct ideas are linked in some way with a third. The third is the middle term or medium, and hence the name mediate inference. The conclusion is effected on linking together the two separate and distinct ideas by means of their common relationship with the third. The first is related to the third, and the second to the third. The relationship of the first to the second is "deduced". In the conclusion the third or middle term disappears: its introduction was only a device, an intermediary, a means to an end. So much for the process. Doubtless it has many forms, and a hundred different applications, throughout the old "barbara celarent" syllogisms, and the other forms of mediate inference. Wherever found, the deductive process is essentially the same. Two terms are each connected with a third. The third is eliminated and the two are themselves connected. Is the process valid?

Probably the description we have given of the process is its best defence. We can at least know what a concept contains, and what it excludes, and incidentally the whole content can be verified. It is therefore obvious that we can see how far two concepts or two ideas agree or disagree; how far they include or repel one another. Naturally, too, the agreement or disagreement, in any case the connection, can be articulated in the form of a proposition. So much for the judgment-process, which we have already defended. Now if we can compare two ideas, it is obvious that we can compare three. To do so, owing to the nature of things, we shall require two propositions. If we wish then to compare each of two ideas with a third, in order to facilitate our vision of the compatibility or connection of the two, who can deny our right? In other words, "deduc-

tion," which is only a device for linking two ideas by means of a third, stands as a process beyond reproach.

Conditions, canons, laws, may be drawn up, in order to guide our thoughts with greater facility. Economy of mental effort thus leads to the formulation of "rules of thumb". Mathematical problems, once solved, may be standardized in some general formula. Similarly, logical problems, concerning the limits of compatibility of two ideas, owing to the relation with a common third, may be solved, and standardized in the syllogistic and other formulæ. All such formulæ are mere mechanical contrivances, skeleton solutions. The justification of the deductive process lies elsewhere. It is really nothing more than a systematic classification of ideas. If we can compare two ideas, there is no reason why we cannot compare three, taking them two at a time. The connection of the last two will be the conclusion of the inference. Because we can judge, we can reason.

Is Inductive Reasoning Possible ?

There is clearly no great difficulty in supporting the deductive side of the rational process. What then is to be said of induction? The process itself is easy to comprehend. We scrutinize a certain number of particular facts, according to certain principles or canons, and then infer a general law. It is the scientific way of generalizing from the particular, of integrating the fleeting, sporadic elements of experience, so that they may be held in some inclusive statement. But is it valid?

Because n types of matter possess the property of extension, what enables one to infer that *all* matter is extended? Might not the $n + 1^{\text{th}}$ type turn out to be inextended after all? Because matter in certain tested cases attracts other matter according to the well-known law, what enables me to conclude that *all* material things are subject to the law of gravitation? What can enable me to move beyond the three, four, or n particular cases that I study? A hundred facts are merely a hundred particular statements, a file of instances. By what

right do I include them and all other beliefs of the same kind, in one embracing conclusion?

Or to pass to more ordinary instances, because P and Q are associated properties of things, in a certain limited number of tested cases, why on observing P should I infer the existence of Q? Because P and Q have been associated in the past, why should they not dissolve partnership in the future? How can the past dictate to the future in this way? The future, after all, is unknown: nay more, it does not exist. Why, therefore, are we so quietly convinced that it will resemble the past?

The Problem of Induction.

If the actual present and the coming future did not resemble the past, then, of course, all our "experience" would be valueless. Each moment would bring a twist in the kaleidoscope, a new beginning, and with it a new reaction of the mind to the altered circumstances. Life would be an unsteady, complicated series of surprises, "experience" a thing of dots and dashes, and our consciousness a bewildering chaos of isolated impressions. Some kind of "creative evolution," by which everything was created anew in each successive instantaneous present would hold the field. All the laws of science and observation would disappear, in this *Wissens-dämmerung*, and the philosopher would stand silent, amazed, if not aghast, at the untiring newness of things.

Knowledge of a man's character or temperament, which we found upon his typical reactions, would give way to open-eyed wonder at the fitfulness and spontaneity of his doings, and the one law of history, "that a revolution is usually preceded by a period of discontent," would disappear as a reckless generalization! We should all revert to the "buzzing confusion" of childhood. Children sometimes ask "what is next Wednesday?" "when will spring come?" "shall I have breakfast to-morrow?" "will my dolly die?" If the future did not resemble the past we should all maintain this

freshness of outlook, the child's undying wonder as to the "how," "why," "what," and general sequence of things. It might even yield some sense of liberation, this general inability to distinguish "Wednesday-week" from the coming spring. . . .

Briefly our practical lives and all our knowledge depend upon the validity of induction. Without it we could have no assurance that situations would recur, no certainty that the things of to-morrow would bear any resemblance to those of to-day. Deprived of the inductive principle, we should never know what to expect from hour to hour, nor how people or things were likely to behave. Change in our actual lives is a sufficiently insistent and bewildering experience. But changes recur: they move in cycles, in obedience to physical and biological law. Without the truths of induction, our experience would be of mere change without recurrence; of change, fitful, sporadic, spontaneous, utterly lacking in sequence, regularity, meaning, or goal.

It may be said that the past contains many a buried future, that all the years of our lives from being future have crossed the threshold of the living present and then disappeared into the past. True; and the conclusion? That our past experience yields us knowledge of the future? By no means. What the future has been in the past, we know. What the coming future may be, who shall say? If the future is to resemble the past, doubtless our experience will enable us to reduce the "*imprévu*," and to chart the unknown. But this general stability of things, this resemblance between the future and the past, is just precisely the point at issue in our discussion of the validity of induction.

In the past men have predicted the appearance of a comet, or the reappearance of a planet. At the scheduled time, the prediction has been verified. Excellent. And the conclusion? That we can predict the future? No! but that we have sometimes been able to predict the future in the past. Yet we are "outward-bound" and strain our eyes towards the coming future. As to that future, only the principle of induction can

yield us any measure of security. Without it even the gaunt fact of the approach of death would remain an interesting but uncertain possibility. Is induction valid?

Hume and the Probability of Induction.

The philosophers have given varying answers. Hume said that we record impressions, and that memory reveals recurrences. By "custom" we are thus led to anticipate the future, this anticipation or belief being nothing more than "inverted recollection". Briefly, induction was for him the outcome of a "belief," founded upon "memory," certified by "custom". Huxley, writing of Hume's doctrine, says:¹ ". . . If our beliefs of expectation are based upon our beliefs of memory, and anticipation is only inverted recollection, it necessarily follows that every belief of expectation implies the belief that the future will have a certain resemblance to the past. From the first hour of experience onwards, this belief is constantly being verified, until old age is inclined to suspect that experience has nothing new to offer. And when the experience of generation after generation is recorded . . ., when repeated and minute examination never reveals a break in the chain of causes and effects; and the whole edifice of practical life is built upon our faith in its continuity; the belief that that chain has never been broken and will never be broken becomes one of the strongest and most justifiable of human convictions."

All this is admirable, both as a summary of Hume, and as a statement of fact. Doubtless the memory of the past "eats into the future". Doubtless "custom" and "belief," based upon so wide and full a review of the facts, establishes a high probability. But "custom," "belief," "expectation," "memory"—even "memory"—can only yield a *probable* answer in favour of induction. Memory, the appointed way of reviving and reproducing associated impressions, while it remains merely sensuous, can never rise above the condition

¹ Huxley's "Hume," chap. vii., opening words.

of particularity inherent in all sense-impressions. By amassing particular instances, we arrive, by "custom" and "memory," not at a general law, but at a high probability that "as things have been they will be". This is what Kant affirmed when he said in his introduction: ". . . Experience never imparts to its judgments, true or strict, but only assumed or relative universality (by means of induction), so that we ought always to say, so far as we have observed hitherto, there is no exception to this or that rule".¹

But can we move beyond the sphere of probability? Memory, articulating the fitful series of sense-impressions, would—once it was certified as an accurate process, and incidentally what certifies memory?—yield us a conviction that the inductive process was probably true. Can we go further and affirm its truth? Between probability and truth there is fixed a gulf. Perhaps we normally think of probabilities gradually increasing in intensity until, growing more and more probable, they finally become true. But this idea, however widespread, is nothing short of a travesty of the facts. The highest probability—even the mathematical probabilities which, on the average, work out so satisfactorily—may be overthrown by one simple fact, by one "brush" with reality. The smallest truth is irrefragable.

When, therefore, we ask if it is possible to affirm not only the probability but the truth of the inductive procedure, we ask if its validity can be put once and for all beyond the range of difficulty, doubt, or denial. If it be only probable—most of the philosophers rest content in this assertion—then all our natural sciences are insecurely built, and all the thousand uses of induction in ordinary life, by which, in spite of many a crisis, we know how to regard the future, are no more, perhaps, than sand-castles built against the incoming tide. With the help of sense-impressions and emotions—Hume's two all-inclusive conscious events—it is impossible to establish the validity of induction. By memory—the residue of sense-impression and "experience" in consciousness—it is impos-

¹ "Critique of Pure Reason," Introduction, Max Müller, vol. i. p. 400.

sible to pass beyond the range of probability. What, then, can give us a guarantee of its truth?

Induction not merely Probable but True.

Over and above the sensorial impressions, over and above all possible modes of their concatenation and revival in sensitive memory, we possess intellectual knowledge. The proof, based upon purely psychological considerations, indeed upon the varying phenomena of consciousness, has already been given.¹ We are not, therefore, at the mercy of sense-impressions, actual or revived. We possess concepts—the simplest form of intellectual knowledge—which are not faint impressions, nor blurred images, nor any compound of sense-elements. They are irreducible modes of consciousness, giving us the “meaning” of things, yielding us knowledge positive, though mediate and indirect, of the nature of reality. Moreover, these concepts are general or, as is sometimes said, universal. They are not, and can never be, particular. To these general representations of the nature of things, therefore, we look for the only true vindication of the inductive process, without which our life and thought would be one wild series of hazards and surprises.

Let us recall very briefly the chief results of our former inquiry into our intellectual knowledge. The nature or essence of a thing is grasped by the intellect, as a being endowed with this or that other property, capable of reacting in this or that well-defined manner. To become quite prosaic but precise, we seize—need we repeat indirectly?—a nature N which manifests itself in the properties P and Q. Now it may easily happen that one or more of the observed properties are due to purely accidental, transitory circumstances, as, for instance, the colour of a rose seen against a certain background, or the “burnt-paper” taste of tobacco-smoke after a period of high fever.

On the other hand, there are properties which no variation

¹ Chap. vii., “Our Grasp of Reality”.

of condition can in the least affect. In consequence they are suitably regarded as the permanent manifestation of a particular reality, and—seeing that things fall into groups—of its species. No variation of condition will prevent matter from being extended. The volume may change, as in the case of explosives, from something very small to something very considerable, but something extended will in every case remain. Similarly no variation of condition will affect the attraction which every particle of matter exerts on every other. It would not be true to say that an unsupported body necessarily falls to the ground: witness the autumn leaves which, driven by the wind, mount instead of falling, and the aeroplanes and other craft that ride the air. But the law of gravitation, of this universal attraction of matter for matter, holds good—we exert a force against a force—in these and other cases.

Now once by a careful process of observation, experiment, and elimination we have determined what are the permanent properties of things, or the essential as opposed to the accidental features of a situation—all the canons and rules of induction are directed to this end—we may justify the inductive process. By the permanent qualities we identify the nature from which they spring: *the same nature must and will always have the same enduring qualities*. Why? Because the qualities are the connatural manifestation of the nature, not mere phenomena shrouding some intangible, unknowable noumenon. As they reveal the nature, while the nature remains the same, they cannot and will not change.

A "person" will always have the powers of intelligence, sensation, volition, feeling, and the rest. Matter while it remains matter must always possess the properties of extension and attraction. If *per impossibile* we came across some specimen of "matter" deprived of extension, we should say, very truly, that it looked like matter but was really something totally different. A leopard, they say, cannot change its spots. In any case matter cannot change its nature, nor, in consequence,

its permanent characteristics. Similarly, if *per impossibile* we came across a "human person" who was totally lacking in any intellectual power of conceiving, judging, or reasoning, however fitful or inconsequent, we should say that "it" looked like a human being but was really some kind of animal. Rationality—though not the indefeasible variety—is an inalienable characteristic of persons. Human nature cannot change; hence the recurrence of this connatural manifestation.

By intellect we have some appreciation of reality, of the nature of things, which endures amid the flux. By intellect we rise above the fretful condition of particularity which inheres so obstinately in all the impressions and derivatives of sense. By intellect, which seizes "the general," we formulate general laws and justify induction.

Instances abound. Atoms, to take a case, enjoy the property of weight, which we measure not absolutely as so much avoirdupois, but relatively to the weight of hydrogen. Moreover, the atomic weight is distinctive of the different chemical bodies, being associated with a particular affinity, a particular atomicity, and a particular group of chemical and physical properties. Once in possession of the atomic weight of a substance, we fix it and infer the rest of its properties: our induction is founded upon our indirect seizure of the nature of the thing. Similarly, if I remark in something presented to my gaze, the property of extension, I may infer the coexistence in this same body of all the other properties which are shared by living and inorganic matter: the nature of the thing which reveals itself unchangeably in one property, must reveal itself also in the others. Lastly, if I hear a spoken language—a characteristic of intelligent creatures without being in any sense a definition of them—I may infer the existence of a person, possessing the other normal, inalienable properties. Once again the nature, which we have "fixed," justifies the induction.

In the final analysis the principle of induction, whereby we extend and consolidate our knowledge, moving from particular

events to general statements, and from the past to the future, all turns upon the principle of identity, "a thing is what it is"; the same nature will always have the same manifestations. Or, conversely, the same permanent qualities and distinguishing characteristics will always point to a nature of the same species.

Mistakes may easily be made. Transitory features may be mistaken for something permanent, or we may trip over what we consider to be the distinguishing characteristic of a particular object or species. The canons of induction lay down the rules for obviating these fallacies. If those rules be followed faithfully, we may be certain of the result. Just as we can deal with triangles in geometry, without introducing any shade of particularity—a characteristic of intellectual operations—so in the natural sciences and philosophy we can deal with the natures of things, to which we have access by means of intellect. Briefly, induction is justified because, in addition to our sensorial knowledge, which moves on the plane of particularity, we enjoy an intellectual type of knowledge which, seizing the nature of things, moves on the plane of generality. To vindicate the generalizations of our knowledge, we look to the legitimate generalizing power of intellect which grasps "the generalities" of things. By means of intellect we soar high above the region of opinion and probability: we possess knowledge.

In the course of our analysis, we have made appeal to the principle of identity "that a thing is what it is," on which the validity of induction securely rests. Lest perhaps anyone at this, the eleventh, hour should challenge that principle, may we remind our reader that it was long since vindicated? ¹ On being submitted to the "ordeal by doubt," it passed unscathed. It is therefore indubitable.

The Foundations of Science are Secure.

In every science we endeavour to group together whole masses of fact, of immediate data, and to hold them in the

¹ Chap. v., "Rational Doubt and its Results".

smallest possible compass by the formulation of general laws. In any science, there will be found large groups of facts, derived immediately from sense-data, a certain number of principles, an occasional postulate carrying with it the note of probability, and lastly a number of theories which combine facts, principles, and postulates in one coherent whole. Now we have shown that sense-data, if properly interpreted, are eminently trustworthy; that principles can be tested either by doubt and denial or by evidence; and, further, that the manipulation of facts and the welding of judgments by deductive and inductive processes, is legitimate. We have established the possibility of science. The foundations of knowledge are secure.

Philosophy almost an Outcast.

After presenting the case for the natural sciences, we turn to discuss the possibility of philosophy, which once enjoyed the proud title "mistress of the sciences". Within recent times philosophy has fallen on evil days: the old designation "scientia scientiarum" is forgotten: from being the "mistress" she is now something of an outcast. A number of causes have contributed to the downfall. The repeated successes of the natural sciences, and their pioneer researches, have dazzled the minds of many men, who, in consequence, have developed an almost exclusive passion for hunting facts. Clinging to their microscopes they have faithfully registered, classified, and concatenated their immediate observations. Of a wider synthesis that should "hold" and explain themselves, the microscope and the object of their inquiry, they have dreamt little.

Then, too, the oscillations of the philosophers—philosophy seems, not to move gradually outward or forward, but to "lurch" incontinently from system to system—have contrasted badly with the triumphs of the men of science. For the disrepute into which our study has fallen, philosophers themselves are much to blame. Systems abound. Many a philosopher has taken his pen and written quickly some all-inclusive

account of the universe, which, while revealing no little imaginative skill, has shown no particular grasp of the primary facts and laws of science. To write about "life" without knowing the facts and laws of biology, or to discuss "matter" without studying the physical sciences, has justly seemed to the men of our day, with their fine but exclusive inductive bias, little short of a scandal.

Metaphysic has thus come to be regarded as an "airy" region where philosophers, liberating themselves from the "tyranny" of reality, and above all from any scientific research, spin luminous dreams: or to vary the metaphor, as a kind of Democritan Void where atoms in the shape of ideas, after many attractions and repulsions, coalesce to form the various systems. Men smile at philosophers, and the philosophers themselves taking the work of their predecessors and contemporaries over-seriously—is it in self-defence?—tend to forget their study in recounting its history and vicissitudes. *The pursuit of wisdom is now almost strangled by the history of the pursuit.* Thus by the neglect of scientific data, and by the exaggerated cultivation of the general history of ideas, philosophers have contributed in no small measure to the downfall of the "mistress of the sciences". From being more like geometry it has become more like history.

Of the many other causes, we may single out for comment the language of the philosophers. Men of letters, and lovers of literature not unnaturally look askance at the forbidding, inhuman jargon of the conflicting systems. Philosophers, forgetful that sublimity and simplicity go hand in hand, have often enough surrendered both simplicity and clearness. They have concealed their thoughts, one might almost say they have buried their philosophy alive, in some tortuous jargon, devoid of all the natural power and beauty and—may we add?—associations of our language. For the most enthralling of propositions, they have often found the most stilted expression. They have chilled men's minds and dashed their hopes, and thereby rendered the treasures of philosophy inaccessible to

the many, by their neglect of the splendours and delicacies of language.

Philosophy and its Consecrated Problems.

At its best philosophy takes up the data and results of the separate sciences—where else can reliable data be found?—and pushes the inquiry one step further, back into the ultimate causes, principles, reasons of things. Of course philosophy covers certain disciplines like the theory of knowledge, which do not depend upon other sciences. Indeed all science and all knowledge, in which truth and certainty are involved, depend upon the theory of knowledge, which sounds the furthest deep. In this it differs from other branches of philosophy, like cosmology and psychology.

Cosmology is the philosophy of the physical sciences, of the inorganic world, while psychology is the philosophy of biological science—more particularly of biology and physiology—and of the empirical data of consciousness. In these branches of speculative science, all the relevant scientific facts are ascertained, and we pierce still further by synthesizing and consolidating the wealth of knowledge scattered in the separate sciences, and by unifying them in terms of ultimate causes. We have already seen that our intellect has the power of grasping, however indirectly, the nature of things. We have seen too that the search-principle of causality, which carries us ever further into the “arcana” of things, is applicable throughout the whole vast range of being. There is therefore no impossibility in the ideal of the philosopher, *which is nothing less than the attempt to understand the whole cause of the nature of things, in all these static and dynamic aspects.*

From all the great problems which interest the race of men there stand out three, the freedom of the will, the immortality of the soul, the existence of God. These are problems which every philosophy which is more than a mere synthesis of the sciences or a criticism of our knowing powers, must attempt to solve. We may roughly indicate the main outline of one

possible solution of each, in order to point our remarks about the possibility of philosophic inquiry. Naturally we cannot in a few paragraphs give the proofs. We only suggest the outline of the proofs, in order to indicate the *method* of philosophy.

In discussing the possibility of science, we could single out the critical problem of induction. There are, however, no principles or methods proper to philosophy. We are therefore driven to the consideration of special problems, in order to indicate the nature and method of the philosophic synthesis.

The Method of Philosophy in Discussing Freedom.

First the freedom of the will. What does it imply? Not that we can do exactly as we wish; for we, like all things compounded of matter, are subject to physical laws. Not that we do, as a matter of fact, choose freely in all the practical affairs of life. Habit is strong, and very often we allow our nature, character, or temperament to decide our actions: we may often allow the dominant impulse to drive us to action. The theory of human freedom does not attempt to deny any of these facts. All that it asserts is that it is of the nature of the will to be free; that the will *need* not necessarily be determined in choosing between alternatives; that the will may be impelled, but that it need not necessarily be compelled.

When we deliberate—the necessary preliminary of a free act—we perceive advantages and disadvantages. The advantages impel us: the disadvantages repel us: the whole compound of impulsion and repulsion cannot issue in compulsion. There are hundreds of cases in which we are frankly determined by past convictions, by our characteristic ideals, by acquired habits, by innate or hereditary tendencies, or by the impulse, feeling, or passion of the moment. Who shall gainsay these obvious facts? The theory of human freedom merely asserts that in the case of normal people, this determination is not necessary; that it is determination *de facto* and not *de lege*; that, whether determined *de facto* in a particular case or not, it is of the nature of the will to be free.

We can only glance at one proof which turns upon the outstanding ethical facts of conscience and remorse. By conscience, we mean a particular judgment, of a very categorical and uncompromising nature, as to the goodness or badness of a particular action. It does not suggest that the indicated course of action is more desirable or more ideal. It gives no "counsels of perfection": it commands insistently in the formula "thou shalt," or "thou shalt not".

Remorse, the second great fact, is a judgment of self-condemnation after the event. It differs from regret in a hundred ways. I may regret an earthquake in Italy or some railway disaster, without feeling the slightest trace of responsibility or remorse. Now, it is obvious that remorse, which is the most gnawing and painful of our experiences, cannot depend upon the will. If it did, it would be obliterated once and for all, seeing that we instinctively desire the cessation of pain, particularly pain of mind. Conscience and remorse, then, are facts in our lives which assert themselves against our will, the one checking and goading us in a hundred ways, with its imperious, minatory judgments; the other rebuking us, in a recoil of self-condemnation, for past infidelity to duty.

Now in psychology, when we have stated our facts, we collect the actual and possible solutions. In this case, the division is easy. Either the will must be determined, or it must be free. There is no *via media*. One by one we consider the determinist solutions that have been offered to explain these strange world-wide insistent phenomena of conscience and remorse. One by one they render these phenomena utterly meaningless. What could be the meaning of an imperative "thou shalt," if I were as determined as a needle in presence of a magnet? What could be the meaning of the recoil of self-condemnation, if I were no more responsible for my moral action than for my physical adherence to the earth's surface? One by one the determinist solutions *explain away* the facts. We are left, therefore, with the other alternative, that the will is free.

Immediately conscience and remorse assume a meaning. Conscience is the promulgation of the law of our nature within us, to guide our free decisions : remorse is the internal sanction for its violation. Other proofs may be offered, and difficulties, arising from the multitudinous differences in "consciences" and various historical, ethnological considerations may be answered and met. We are only indicating the *method* of the philosopher. He considers what is meant by the will, and by freedom. He collects and sifts a significant group of facts—here the facts of conscience and remorse. He considers the alternative solutions, and then proceeds to eliminate all but the one theory which fits and interprets everything. He is on the track of causes, his one instrument being the principle of causality.

Method of Philosophy in Discussing Immortality.

Let us turn to the second of the final problems, that of immortality, in order to show how the philosopher is driven from material facts to so immaterial a conclusion. Matter is divided into the living and non-living varieties. The non-living, or inorganic, mineral world is characterized by transitive activity. Living matter, on the other hand, shows a characteristic gamut of immanent activities in the form of nutrition, growth, and reproduction. For this reason there are two distinct sciences of nature—the organic or biological, and the inorganic or the physical.

Now to facilitate our analysis we speak of a vital principle, meaning that principle—a principle is nothing more than "that by which a thing is, is made, or is known"—which actuates the characteristic immanent operations of living things. We human beings are living organisms : we therefore share with all other living things a vital principle. Now the problem of immortality may be stated as follows: Is our vital principle material or immaterial? If immaterial, does it survive the fact of death? If it survives, does it persist unendingly?

First, is our vital principle immaterial? Let us start in our

psychological laboratories. Within the last few years much evidence has been brought forward to show that intellect and sense differ from one another radically, that they are irreducible modes of consciousness. We have already proved the point in our chapter on "Our Grasp of Reality". In other words, our intellectual and sensorial operations, though interdependent and complementary, are neither identical nor reducible to one another, nor to any other psychological process which is simpler than either. *Intellect and sense are irreducible.* Now sensation is a direct and immediate function of the nervous system and intellect is not. All the possible combinations of nervous reception and discharge, of peripheral and central nervous excitation, are exhausted by sensation, imagination, feeling, locomotion, and volition. *The intellectual element in consciousness does not work immediately through the nervous system, nor for that matter through any bodily organ.*

Naturally intellect and sense are interdependent, and to that extent intellect depends mediately and indirectly upon nervous processes. But of itself it has no appropriate organ. There is no part of the body, no element or group of elements in the nervous system, to which one can point—as we do actually point in the case of sensation—as the seat of intellectual operations. Yet intellectual operations take place in consciousness, giving us meanings, concepts, judgments, reasonings. They take place: they have no corresponding bodily organ: they are therefore immaterial.

"But," it may be said, "intellectual operations may be suspended by physical fatigue or by a natural or artificial state of unconsciousness. By tampering with the physical or material part, you can thus maim the immaterial. Better to talk sense and omit the immaterial entity."

Undoubtedly the facts are true. Only the inference is unsound. Physical fatigue suspends intellectual operations because it removes the *sine qua non* conditions—imagery, attention, concentration—which depend upon the nervous system. The immaterial intellect has stringent material con-

ditions. But a condition is not a cause, nor, above all, is it a bodily organ. Our own inference remains untouched.

So far we have only suggested the use of certain relevant facts from experimental psychology and physiology. The rest is an unavoidable chain of reasoning, leading to the conclusion that the intellect is immaterial. Our vital principle is the source of all our activity, of all our operations. One of these operations, namely, that of intellect, is immaterial. It therefore follows that the vital principle—or what is more frequently spoken of as the soul—is immaterial. For what is bounded by the laws of matter cannot produce something which defies and escapes those laws.

Does the soul survive the fact of death? Being immaterial, the human soul is *not* as matter: it is *inextended* and *indivisible*. Now death is a catastrophe that can only overtake material things. It is a phenomenon of disintegration, the disruption of living into inorganic matter. It cannot affect that which is indivisible. The human soul which is indivisible cannot therefore die. It survives the fact of death. We offer only a gaunt framework of proof. All the propositions in this hurried sequence need to be explained and substantiated.

Is the soul immortal? Or in other words, is the survival never-ending? If the soul cannot die, we see at least that it could be annihilated, not disintegrated but reduced to nothingness. The various arguments for and against this possibility must be considered. They lead us to see that there is no positive evidence in favour of annihilation. Against annihilation there stands the general principle of teleology which of course must be considered, explained and defended. In conclusion, we are led to deny the fact of annihilation, and to assert the truth of immortality.

The problem of immortality, treated in this way—*we have only suggested the barest outline of the method*—is an excellent instance of philosophic inquiry. It shows that philosophers collect their facts from the laboratories; and then combining results from the separate sciences of experimental psychology

and physiology, press forward their conclusions into regions which lie beyond the scope of those sciences. The whole of such an inquiry represents no illuminating "solution simpliste"; it is conducted slowly, step by step, in the full light of all the relevant facts. It shows how philosophy can solve one of life's mightiest problems.

The Philosophy of God's Existence.

We now turn to the last of the great triad, the question of God's existence.

We are assured of the existence of a real world of persons and things. If challenged, we can supply a satisfactory proof. What is the origin of that world? Whence comes it? What is the reason of the relative stability of the nature of things, in spite of their incessant changes? What is the explanation of the fact of change itself? Whence comes the activity, the efficiency which every change demands? Briefly, what is the ultimate cause of the being and becoming of things?

As things change, they cannot be to themselves the full and sufficient reason of their own transformations. That is nothing more than a statement of the principle of causality. Now the cause to be the real cause must be the whole cause, and the causes which we see ordinarily only yield a partial explanation of the given efficiency. Where is *the whole* cause of all being and all becoming to be sought?

One by one we consider the possible solutions. We only delay for a moment over the suggestion of "absolute evolution". Did the evolution begin with something? What then is the origin of the starting-point of the whole process? Leaving aside a number of solutions, which might even seem out of place in a fairy-story, we are left with two alternatives. Either the being and becoming of things can be explained by an infinite series of contingent causes, or else there is no explanation to be sought in the realm of contingent being. An infinite series, were it possible, would provide us with no explanation, and, worse than all else for this solution, an in-

finite series of contingent causes does not and could not exist. The ultimate explanation of things that are changeful and contingent can be sought in nothing but a cause which is changeless and necessary. Outside the series of all the causes that we see and measure, there must exist a First Cause, Fount of all activity and efficiency in the universe, upon which all other agents ultimately depend. Once again, we give no proof. We only suggest the outline of a method.

The procedure, it will be noted, is ever the same. We start with the facts—here the insistent fact of change in all its myriad forms. We apply our search-principle of causality: we erect hypothesis: we dismiss those which fail to explain all the facts: finally we are led by the pressure of the facts to the conclusion that God exists. The method of the philosopher stands revealed.

Philosophy is Eminently Possible.

In considering the possibility of science we were able to indicate and justify one pivoting principle in the inductive process. There is no great synthetic principle of a similar kind peculiar to philosophy. The philosopher employs all the principles and all the methods of the many sciences, accepting and welcoming all facts and all the partial explanations that go to make his last mighty synthesis of the whole. By dint of much labour, by the interplay of many methods, by the use of every valid form of proof and argument, by a sustained and piercing inquiry into what is ultimate and constitutive in things, the philosopher consolidates knowledge and discovers new truths. Somewhere in one of his poems Browning remarked,

Only by looking low ere looking high
Comes penetration of the mystery.

The words convey a profound truth. To them we may add as a supplement, "but only by looking high after looking low comes *solution* of the mystery".

Now by looking high, now by looking low, by omitting

nothing, by scanning all things, the philosopher moves slowly to his conclusions. In his hands knowledge gradually gives way to wisdom, and science to philosophy.

We stand on the mountain-peaks, straining our eyes towards the East whence Light shall emerge. As the first grey rays stream over the horizon our minds rejoice: we grow contented as in the strong white light we perceive the world lying at our feet, solemn, mysterious, entralling. Yet, as the wide-flung splendours of earth and heaven are seen in the crystal of philosophy, we begin to long incontinently for a deeper and fuller understanding. Our minds restlessly await the Great Illumination, when all the indirectness of our Knowledge shall at last have yielded to the immediacy of Vision.

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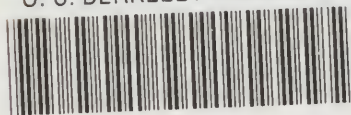
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