

Religion and science : a philosophical essay / by John Theodore Merz.

Contributors

Merz, John Theodore, 1840-1922.

Publication/Creation

Edinburgh ; London : William Blackwood, 1915.

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RELIGION AND SCIENCE

A PHILOSOPHICAL ESSAY

Ῥητὸν γὰρ οὐδαμῶς ἐστὶν ὡς ἄλλα μαθήματα, ἀλλ' ἐκ πολλῆς
συνουσίας γιγνομένης περὶ τὸ πρᾶγμα αὐτὸ καὶ τοῦ συζῆν
ἐξαίφνης οἷον ἀπὸ πυρὸς πηδῆσαντος ἐξαφθὲν φῶς ἐν τῇ ψυχῇ
γενόμενον αὐτὸ ἐαυτὸ ἤδη τρέφει.—PLATO, *Epist.* vii.

These matters cannot be communicated in words as other
sciences are. Out of repeated debates on them, and much
social intercourse, there is kindled suddenly a light in the
mind, as from fire bursting forth, which, when once gener-
ated, keeps itself alive.—GROTE'S Translation.

Then sight, or that which to the soul is sight,
As by a lightning-flash, will come to thee.

—*The Dream of Gerontius.*

RELIGION AND SCIENCE

A PHILOSOPHICAL ESSAY

BY

JOHN THEODORE MERZ

AUTHOR OF 'A HISTORY OF EUROPEAN THOUGHT IN THE
NINETEENTH CENTURY'

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Dedicated to
MY BELOVED WIFE

WITH THE HUMBLE PRAYER
THAT THE AIM OF THIS ESSAY MAY BE WORTHY OF
HER INSPIRING LOVE AND HELP

THRISE happie she, that is so well assured
Vnto her selfe and settled so in hart :
that nether will for better be allured,
ne feard with worse to any chaunce to start,
But like a steddye ship doth strongly part
the raging waues, and keepes her course aright :
Most happy she that most assured doth rest,
but he most happy who such one loues best.
—SPENSER.



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RELIGION AND SCIENCE.

PART I.

GENERAL.

I.

THE object of this Essay differs from that of many other dissertations with a similar title. It does not profess to discuss either scientific theories or religious doctrine. It takes for granted as simple fact that a certain amount of generally accepted scientific knowledge exists, and it takes equally for granted that religious beliefs exist. The latter may at any time differ amongst themselves very widely, whereas scientific knowledge, at any moment of time, can to a large extent be stated in generally accepted terms, though

in the course of time these terms change very considerably.

Meaning
of Science
and
Religion.

Nor is it my intention to define carefully either of the two words — Science and Religion. It is supposed that thoughtful readers have an adequate notion that science signifies knowledge gained by methodical observation and reasoning, accredited by persons generally believed to be competent. And so far as religion is concerned, a simple definition may suffice. It will be taken to signify such convictions as refer to our Duty in relation to our Destiny as human beings, without entering upon sectarian or individual differences.

It is not likely that many of the readers into whose hands this Essay may fall will find any difficulty in accepting these simple data. Certainly Science plays such a prominent part in our present life that it requires no further introduction, nor do I think that the existence of Religion in the general sense just indicated will meet with

any denial. Should there, however, be any among those who glance at this Essay who consider religion a term for an antiquated thing, and believe that science not only embraces all accessible knowledge but should also supply all necessary convictions, then I wish it to be understood that the following pages are not written for them. I do not think that any philosophical arguments would be likely to change such opinion, wherever it exists. Should such a change be possible, I think it would rather come from the influence of a very different class of persons, for whom, however, the reflections contained in this Essay are likewise not primarily intended.

This latter class comprises those who are not troubled by any doubts arising from the conflict between science and religion or between knowledge and faith. These are fortunately to be found scattered through the land, belonging to all professions without distinction of rank, age, or sex. They are

the very lights of the world, who irradiate an atmosphere of warmth, and command that love and reverence which form the very life-blood of society. For those who are "so well possessed" my words will be superfluous.

The class
of readers
appealed
to.

There is, however, a very large and, I believe, an increasing class of thoughtful persons, especially among the younger generation, whose views on the subject before us are not formed, who feel themselves sore perplexed by the contradictions which apparently exist between the dicta of science and the tenets of religious creeds, who are not prepared to sacrifice the truth of either, but who find it extremely difficult to reconcile them. To thoughtful readers amongst this class I venture to submit the following reflections.

II.

The difficulty with which we have to deal presents many aspects, and can be approached

from different sides. I will select one of ^{Outer and} these. It is expressed by the contrast of ^{Inner} World. the Outer and the Inner World. The vast increase of scientific knowledge of the Outer World—*i.e.*, of things surrounding us in time and space—makes it increasingly difficult to find a location for what we term the Inner World. The latter, so it is alleged, is confined to an abode in a portion of the universe which is infinitesimally small compared with the totality of existing worlds. It is relegated to the interior of living and sentient beings, and among these to a comparatively very small number.

And even among the small number of human beings, it is, again, only a small proportion in and by whom what we may term the inner or higher life—the World of Thought—is represented. This is, in fact, one school of thinkers suggests, a mere epiphenomenon which can have no influence upon the Outer World.

On the other side, the influence of the

Outer World upon this infinitesimal phenomenon is overwhelming, and suggests that the laws which govern it make any independent existence impossible or merely apparent. This view leads to what is usually termed Fatalism.

Modern
predomi-
nance of
the Outer.

The beginning of this tendency of thought in modern times and among the most highly civilised peoples of Western Europe is to be traced to the great change which followed the acceptance of the Copernican System of Cosmology. This destroyed the older geocentric view according to which man and human affairs formed the centre of interest. What James Martineau very finely said about the Grecian mind is applicable to a great extent to all European culture up to the age which witnessed the birth of Modern Science :—

Fair as was the climate of that land, man was yet the spectacle most admirable there, and for the same reason that Eve, when gazing into the lake of Eden, beheld nothing but her own loveliness,

though the whole of Paradise was reflected from its bosom, did the Grecian Soul, when bending over the depths of philosophy, feel itself attracted by the incomparable beauty of its own self.

The Copernican or Cosmo-centric view did not penetrate into general thought in all its consequences till it had been confirmed by the subsequent discoveries of thinkers like Galileo, Kepler, and Newton. But already at the end of the eighteenth century it had gained the ascendancy in French thought, so much so that what was termed the Newtonian philosophy was considered by foremost thinkers and practical reformers to be the very master-key in science which was to open the understanding of social order. Neither the extreme theories of Laplace, nor the Utopias of Saint-Simon and Fourier, are now accepted as valid or practical; but the general movement of scientific thought which depreciates the part played by individual human life and activity in the world was strengthened by a more recent theory which

dealt exclusively with the living creation.

Biology
adds its
influence
to Cosmo-
logy.

This is the theory of Natural Selection, and notably of Inheritance, which, as generally interpreted, seems to leave little room for individual originality and spontaneity.

In quite recent times a third influence has been added to that of Science, an influence which is only indirectly connected with the Scientific view, but nevertheless works in the same direction—*i.e.*, in the direction of minimising the importance of human effort in the world at large, or reducing it only to that of a small number of persons gifted, not through their own merit, with exceptional ability and power. The rest, and by far the largest portion of human beings, especially in the most civilised countries, are more and more reduced to mere instruments whose labour is regulated or utilised by large organisations, such as trading companies, trades-unions, or the Government itself. Even the spread of popular education, which was expected to do so much for the enlight-

Social
organisa-
tion
reduces
men to
instru-
ments.

enment of the masses, has in many instances tended to discourage individual effort and to remove personal responsibility in the choice and prosecution of the vocation and duties of life.

These three influences, of the modern spirit, of scientific methods, and of social organisation have, together with many others, tended in the direction of making the aspect of the World more mechanical, that of Society more artificial, and of minimising the value, at least amongst the larger proportion of human beings, of individual effort and originality. For where your activities, whether physical or mental, are believed to be under the control of inexorable laws of Nature, and your conduct, while supposed to be free, is really dictated by the order of Society, there is little room for individual choice and spontaneous resolution. And it is only where the latter exist that the individual person is thrown back upon his own inner resources, forced to interrogate his own conscience, and, as it were, take his future and destiny into

his own hands; in one word, to form and appeal to some highest conviction.

That this is so has been recognised also by thinkers who are primarily impressed by the progress of Science and by modern mechanical, cosmological, and biological theories, but who do not share by any means the interest in the older religious beliefs which this Essay is intended to uphold.

An extreme and much-discussed representative of this class is Friedrich Nietzsche. What marks, however, his efforts, and the efforts of others who think like him, is the attempt to find a stimulus and outlet for individual energy within the limits of scientific doctrine itself,—and this consists in placing the intellectual achievement of a small number at the service of the struggle for existence. By such means it seems to others that human beings would be reduced—to use a phrase of Huxley's—to the rank of “Bipedal Cattle, only more ferocious and brutal by dint of their greater intelligence.”

Effect of
Struggle
for Exist-
ence as
standard.

III.

It is, however, not in the way indicated at the close of the last section that it is likely that the mechanism and collectivism of modern life will be superseded and enlivened by a renewed vigour of individual and personal effort.

The reaction, as it seems to me, must come by a much more radical change of thought, and it is the object of this Essay to show how this change is also indicated by certain tendencies in recent philosophy. But before explaining this definitely, it may be of interest to show how the development of modern science itself, if viewed as a whole, tends to discourage the extreme confidence which some of its representatives feel in its assumptions. I will confine myself to two reflections which point in this direction.

Reflec-
tions
against
extreme
confidence
in Science.

The first refers to the often-used phrase of the "inexorable laws of Nature." What

must strike anyone who has followed the most recent progress of scientific thought is the growing uncertainty which has crept into the fundamental principles not only of the biological but also of the mechanical sciences. This contrasts very markedly with the confidence which existed half a century ago. Several highest principles at that time looked upon as laws of nature and accepted as such by scientific authorities have since lost their supposed validity, having been subjected to incisive and destructive criticism. With the exception of the Newtonian law of gravitation, none of these so-called first principles has withstood the loosening effect of deepening research revealing quite unexpected phenomena. Nothing has tended more to upset older views than the discovery of formerly unknown radiations culminating in the discovery of Radium. All the older theories of the generation and maintenance of Solar heat, and also those referring to the Age of the Earth, have been completely upset.

The Atomic theory, in its older form, together with the law of fixed proportions and the stability of the elements, has been challenged, and even the Newtonian laws of Motion are subjected to criticism, whilst the law of gravitation itself is confined to merely molar phenomena, having been found inadequate in dealing with molecular or still smaller phenomena; and it is with the investigation of these that modern physics is mainly occupied.

In consequence of these changes, the doctrine of the so-called "inexorable laws of Nature" requires at least the qualification that if such laws exist they are, so far as the totality of things is concerned, entirely unknown to us, and likely to remain so; the known laws referring merely to restricted regions of phenomena and events.

Limita-
tion of
known
"laws of
nature."

For anyone who has studied carefully the progress of the Abstract Sciences during the last hundred years, little imagination is required to picture to oneself the entirely

altered features which Chemical and Physical Science is sure to present at the end of another century. All this tends to invalidate other than purely scientific deductions founded upon the actual state of physical theory : and indeed those scientific thinkers who have stepped outside their special departments and ventured to construct ethical, social, and even religious creeds, such as notably Büchner and Haeckel, have resorted to the vaguest metaphysical notions, which in the sense intended by them could not stand before strict scientific criticism.

There is, however, a second reflection, which may appear paradoxical to my readers, but which I will endeavour to show does not lack the support of advanced Scientific Knowledge and its practical application.

Inner life
unlocalis-
able.

The popular idea of locating the inner life, by whatever term we may choose to describe it—such as mind, soul, consciousness, &c.—somewhere inside the body as its physical envelope, is in the light of modern research

quite gratuitous, although we are so accustomed to it that to doubt its relevancy appears a fanciful paradox. To show that this is not so, I will give an illustration. It is nowadays possible for any person with very moderate practice and intelligence to converse with a stranger who has no knowledge of the telephone or of wireless telegraphy, giving instructions or information which is not his own at all, but which the person he is speaking to would, for lack of the knowledge just referred to, attribute without hesitation to the mind of the speaker. As the listener would without doubt form an opinion of the intelligence or thought of the speaker according to his utterances, not knowing that he acts merely as a means of transmission for the thoughts and deliverances of another mind situated at a great distance, he would carry away with him an entirely erroneous conception of the actual state of things.

Now it requires little reflection to see

that we have no right to consider the physical organ of any living creature or of man himself in any other light than as an instrument of transmission of an intelligence which, so far as we know, may not be found in that space where we erroneously locate it. I do not mean to say that the source of all intelligence is situated somewhere else in space, but it is not unreasonable to infer that, if a spiritual world exists at all, this is not to be found by ever so minute an observation or dissecting analysis of a physical organism.

In fact, we may adopt the view expressed somewhere by Lotze, who himself believed in a certain sense in the physical location of the soul, that whatever this may mean, we must, to find the soul, dive as it were into an entirely different dimension, penetrate into an entirely different order of existence.

IV.

Our reflections so far have attached themselves to the ordinary popular view of the outer and the inner world—meaning by the former the things and events (including our own physical existence) which lie around us, and which as we suppose are observable likewise by other persons, and meaning by the latter that portion of our personal existence which contains our thought, taking this term in the widest sense as including sensations, feelings, desires, conceptions, ideas, and the like, all these being our private property and inaccessible to the gaze and knowledge of other persons. It is, however, possible to take an entirely different view of the relation of the outer and inner worlds. It is possible, instead of contrast-
 ing them and placing one opposite to the other, like the image in a mirror to its original—to look upon both inner and outer

Inner and
outer as
together,
not
opposed.

experiences as lying, as it were, on the same plane, making up together the total field of our consciousness.

It may be said that psychology proper, the science of Mind, has only begun historically, and can only be consistently developed, with the recognition of this exclusively introspective point of view.

Descartes'
"Cogito."

Historically it may be considered as having been pushed into the foreground and placed at the entry not only of psychology but of all philosophy by Descartes in his celebrated dictum "cogito ergo sum." But though this purely introspective aspect is introduced in Descartes' dictum, it is—as has been frequently pointed out—mixed up with a conception which introduces a feature not purely introspective. This fact,—to which we shall have to return later on,—as well as the difficulty of confining oneself strictly to purely introspective data, has retarded the development of philosophical thought, which has always fallen back again into the dualism

of the outer and the inner, abandoning the straight road indicated by Descartes. It is the merit of British philosophy that it has, ^{British} ^{philo-} ^{sophy.} more than any other modern philosophy, again and again reverted to the true path, and worked out some of the results and consequences to which this must necessarily lead. And it is the object of this Essay to apply this view to a special problem—the problem of Religion, and to state the conclusions to which it leads us.

In order to make this purely introspective view clear to my readers, I will make use of two similes, the first of which was suggested and beautifully elaborated by the late William James in the ninth and tenth chapters of his greatest work, ‘The Principles of Psychology.’ He introduces there the picture of the “Stream of Thought.”

Let each one of my readers consider what goes on in his own mind at any given instant of time. Let him for the moment disregard the fact that there are other

persons besides himself to whom experience similar to his own may belong. Giving his attention solely to his own experience, he will notice that this consists in a continuous flow of thought which language describes in various terms, such as sensations, perceptions, ideas, feelings, desires, volitions, &c. All these are in various ways mixed up and in continuous never-ceasing motion and change—comparable to the waves and eddies and changing lights in a flowing stream. There is absolutely nothing else in his mind, and the latter—the mind itself—is at the moment for him nothing less and nothing more than the totality of the many features of this flowing river or stream of thought.

The
stream of
thought.

And should the reader be tempted to look as it were outside of this moving scenery, to think, as he would say, of other things and persons, he would find that he could only do so by introducing their images into the stream of thought, where they will form a special feature embedded in and among

other features of this moving spectacle. In fact they would be found to displace something else, and to acquire, as it were, a location within the boundaries of the running stream.

This simile, though extremely suggestive and helpful, seems, however, to lack one peculiarity which is essential if we wish to apply it to our waking life and to include more than what we are conscious of when, as it were, we retire wholly into ourselves. In our waking and observant states of mind, the flow of thought seems to eddy round and encircle definite fixed objects — the objects of the outer world.

For although it may be true that the latter are likewise in a continual state of change, they are for our own individual experience to some extent fixtures which attract our special attention, or stand out more or less clearly in the midst of the flowing stream of thought.

Fixed
objects
in the
stream.

I therefore prefer another simile, and I will speak of the Firmament of the Soul,

Firma-
ment of
the Soul.

comparing the content of our Consciousness at any moment with the impression of the starry heavens at night, which, though moving continuously like a stream, contain nevertheless certain apparently fixed points which contrast very markedly with clouds or other moving portions of the sky.

Period-
icity of
move-
ment.

There is, further, a very important feature in the movement of our thoughts which is not represented in the analogy of a flowing stream. This is the recurrence and periodicity of certain features in the general movement. This feature is well represented in the periodical recurrence of some things within our physical horizon, such as the constellations of the fixed stars, the rising and setting of the sun and moon; and the very irregularity of the periods and details in these recurrent phenomena is quite analogous to the nature of our recurrent thoughts and observations. In both cases the repetition is just sufficient to arrest our attention and impress us with the contrast between that which is more or

less abiding and those surrounding features which are ever changing and never repeat themselves.

The abiding features form that enlargement, both in the case of our mental and in that of our physical horizon or firmament, which is due to memory. Memory Memory. stores up, as it were, certain observations, which, if they only happened once, would in all likelihood soon be forgotten. Were the rapid succession of our thoughts without repetition and periodicity, it would resemble the spectacle of the moving landscape which we may watch from a railway train, and of which we retain only a vague and general impression, which makes retention by the mind, or description, wellnigh impossible.

As it is, very few of the new impressions and experiences which we gain in later life are even approximately free from the penumbra or the fringes of earlier experience, stored up through memory, and forming the background or setting of everything we are

tempted to call new. As we progress in years the flow of our thoughts or the firmament of our soul is increasingly filled with memory pictures.

This is likewise more adequately represented by the second simile which I have made use of, inasmuch as the physical firmament becomes more and more crowded through the scientific aids of sight and reasoning, rendering the spectacle more interesting and intricate, but new discoveries less prominent and impressive.

Imagination.

In addition to memory, but only in conjunction with it, imagination plays a great part in the filling up of our field of consciousness. But it is unnecessary for our present purposes to enlarge on this subject, as I shall have to refer to it in the sequel.

V.

What I have so far wished to impress on my readers is the fact that all our knowledge of what we term outer as well as inner things and events is for each of us individually comprised in the moving stream of thought or the firmament of the soul, and is to be found nowhere else. And I wish to impress this so much the more, as I shall be met by an objection now to be dealt with. Thoughtful readers will probably admit that all our knowledge is within the confines of our individual experience, that it is primarily all personal; but they will add that nevertheless there is a marked difference, which common-sense describes by the term outer or inner, external or internal, physical or mental.

A portion of the experiences of our conscious life are not only subjective but also objective, by which latter term we mean that

they have an existence outside and independent of our respective individual selves. They could not indeed exist for us individually except they were a portion of our subjective experience, but they are in addition to this something more, as we know by what has been termed "inter-subjective communication" with other persons, who describe to us experiences so similar to our own that we are for practical purposes induced to call them the same. By far the greater portion of all our conduct in the course of our life is based upon this conviction.

In fact, we extend this conviction, gained primarily through communion with other persons, so as to assign to things and events contained in this common experience an existence quite independent of any mental experience at all, be it our own or that of other persons.

In fact, we objectify a portion of the total contents of our individual consciousness, calling it the external or, *par excellence*,

the Real World, and contrast it with that ^{The Real}
other portion which we term the Inner ^{World.}
World, and which, though possessed of
reality, seems to have less of it than the
former portion.

This conviction is very much strengthened by the ordinary occupations of our life, which consist to a large extent, and with many of us almost exclusively, in dealings with or acting among other persons; and even when we retire into the sanctuary of our own individual thoughts, we find these again almost exclusively occupied with memory pictures of what we term our external life. And though it is the special task of psychologists—be they scientific, philosophical, or purely literary—to take special cognizance of the subjective side of our experience, it has always proved extremely difficult to carry through this introspective view consistently, and not to lapse again and again into a contemplation of the external world.

The reasons of this are manifold and some of them quite obvious, but there is one circumstance which stands out prominently.

Psychologists, to whichever of the above-mentioned classes they belong, whether students of psycho-physics, introspective thinkers, or psychological novelists, deal almost exclusively with the adult mind. This induces them to attach much importance to mental features and abilities which have been acquired in the course of adolescence, but many of which are much less marked or perhaps totally absent if we go back to the period of childhood or infancy.

Adult and
infantile
conscious-
ness.

VI.

If anything be wanting to convince the reader that all his knowledge of external things is merely a development and elaboration of what were and still are purely subjective experiences, he need only go back in

Subjective
experience
prior.

imagination to that period of his life in which he must have been utterly unconscious of anything besides feelings and desires which had not yet developed into sensations or perceptions or definite volitions.

An infant in its early days beholding a red colour can have no conception of a thing to which it belongs. It is merely a passing feature in the small horizon of its contracted conscious life.

Such may be succeeded by other experiences of sight, sound, or touch, or by feelings of discomfort or pain, which are automatically succeeded by movement without any definite exertions of an active will. The great problem of psychology should be to describe by what new experiences the contracted field of a child's consciousness becomes enlarged, how definite sensations take the place of vague impressions, and an active will ministers to more pronounced desires. Such psychology would, as it were, describe and define the objects

and changes in the stream of thought or the firmament of the soul. It should be analogous to the gradual development of descriptive astronomy, which began by singling out definite objects in the physical firmament, and advanced to more and more detailed knowledge of cosmic and terrestrial phenomena.

Genetic
psycho-
logy.

Such psychology would be truly genetic, but not in the sense of describing the genealogy of the external man by going back to fanciful reconstructions of prehistoric phenomena, or even of those of the animal creation, but simply by answering the question: What are presumably the earliest experiences of a conscious infant mind, and in what order does it gradually gain that wider horizon and more complicated aggregate and flow of sensations, perceptions, ideas, imaginations, desires, and purposeful volitions which constitute at any moment the state of the adult mind?

It is only in quite recent times that

attempts have been made to fulfil this task, and to deal with the gradual growth and development of individual consciousness, instead of starting at once with the adult mind and its functions, as known to us from the intellectual side mainly through language, and on the active side through the observable conduct of our fellow-men.

That this is, however, the true object of introspective psychology, is being more and more recognised by philosophical writers; as is evident from the many passages in philosophical works—and those not exclusively psychological—in which single traits in the history of the individual mind are described, frequently in much detail and with great clearness. In fact this, and not the labours of psycho-physical research, constitutes the principal advance, not only in recent psychology but eminently also in the general metaphysical and philosophical literature of recent times.

But, as I stated above, there is always the

Difficulty
of keeping
to intro-
spective
aspect.

danger lurking in the background of abandoning the purely introspective aspect and introducing arguments and observations drawn from the external world; the most seductive of these being supplied by words and language. Now the latter are entirely a creation of the adult mind, to which the experiences of the child's mind must gradually accommodate themselves: they are therefore not immediately expressive of the pre-intellectual, almost entirely emotional state of feelings and desires which constituted the earlier stages of mental development.

The fact also that for the adult mind—and increasingly so as civilisation progresses—the outer world becomes more important and through the progress of scientific knowledge to some persons almost overwhelming, makes us forget that in the earliest stages of our life no outer world exists at all; that the knowledge of it has to be acquired very gradually; that it has slowly to emerge out of the cloudland of infantile feelings and desires.

We find in modern philosophical literature frequent reference to the genesis of our belief in an external world, but many of the arguments brought forward are based upon logical deductions more fitted to justify the existence of such a belief than to explain how the belief arose in each individual instance.

The attitude of the psychological writer seems to resemble that of the geologist who attempts to explain the history of the earth by resorting to forces and agencies which he sees at work in the present day. Such explanations, though useful and interesting, acquire much greater convincing force by the addition of a theory which could never have been propounded by geological investigation alone, but which was supplied by astronomy — the theory that the present state of the earth, as we know it, is a stage in the consolidation and cooling of a gaseous body thrown off from a central mass by centrifugal combined with attractive forces.

VII.

It cannot be my present object to mark even in the broadest outline the principal traits which a genetic psychology would reveal; for the purposes of this Essay, I will refer only to one or two points which appear of special importance. Among all the general or abstract notions with which the developing mind has to become familiar, none is more fundamental than that of Reality. As stated above, all mental experiences have one reality in common. They are simply there, they happen. This is the reality to which Descartes referred all knowledge and all certainty, as the ultimate test. But in practical life we have a further additional test of reality: we distinguish between experiences which we stigmatise as merely apparent, and others to which we attribute actual existence; and we term the latter objective or external in

Notion of
Reality.

contrast with the former which are purely subjective.

The question arises as to the criteria of this additional reality, this more pregnant form of existence. This problem of the criteria of external existence may be answered by an appeal to the verdict of adult and educated persons.

I may, *e.g.*, invite each of my readers to try and answer this question for himself. In works on psychology we find definite answers to it. We are told that an experience originally subjective acquires that additional impress of actual reality by being, *e.g.*, permanent or recurring, by being experienced by other persons, by fitting into that general order of things which we term the outer world—*i.e.*, by standing in relation to other experiences, by having a definite location or generally what we term in microscopic work definition, which implies clear outline and vividness.

Now all these and a variety of other

How
arrived at.

properties which qualify a subjective experience to be in addition objective or real, in the more pregnant sense of the word, may describe with tolerable completeness the means by which the adult mind answers the question as to reality, but they do not answer the question how the infant mind may possibly arrive at the notion of reality—or, to express it more crudely, how it arrives at the notion of things.

It seems to me that the principal experience of the infant mind which will lead from a vague to a more definite notion of something externally real has been omitted in the list of criteria given above. This is Personality.

Com-
munion
with per-
sonality.

Inter-subjective communion, as Ward terms it, reveals to the infant mind the outer world. This has been, indeed, remarked by various writers who have dealt with the problem, and it is so important and to my present purpose that I will quote in full three passages taken from three thinkers, of whom, I believe, none had when he wrote any

knowledge of either of the two others. The earliest of these passages occurs in an article by Wilhelm Dilthey of the year 1890 :—

Source of
notion
both of
person
and thing :
Dilthey.

Der erste objective Zusammenhang eines Ganzen, der uns aufgeht, ist der einer anderen Person. Die Mutter, welche sich über die Wiege des Kindes beugt, es aufnimmt und nährt, ist ihm die erste volle Realität, welche aus dem Hintergrunde des Sinnenchaos auftaucht und leibkräftig wird. . . . Nach dieser Analogie concipiren wir dann die Objekte. . . . Das Ding und dessen begriffliche Formel: die Substanz ist sonach nicht eine Schöpfung des Verstandes, sondern der Totalität unserer Seelenkräfte. Der nächste Beweis hiervon liegt in der Unmöglichkeit, diese Formel dem Verstand widerspruchsfrei durchsichtig zu machen.

The second passage is from the 'Gifford Wallace Lectures,' by William Wallace (1894) :—

The mother, already enriched with reason and love, bending over her infant, does not by her glance, her smile, her touch, give it a soul, a spirit, a reason; and yet in that glance, that smile, that touch, soul, spirit, reason are as surely born as the physiological life of the same child is born, and so far as we know is only born, in the congress of male and female. As in that case the elements of the living being, the

constituents which build up structure, are older, far older than the two parents, who to popular apprehension are the authors of the being of their progeny; so in the spiritual world, the child and its mother severally bring to their union of soul a store of powers and faculties prepared by, it may be, centuries of inherited tradition. Yet it is in the main true, that it is the mother's and father's look and touch . . . which kindles into flame the dull materials of humanity, and begins that second birth, that spiritual parentship which, at least not less than the first, should be the peculiar glory of human father and motherhood.

Tarde.

The last passage is taken from Gabriel Tarde, 'Les Lois Sociales' (1897):—

Je dis qu'à l'origine, ce rapport d'imitation a existé non pas entre un individu et une masse confuse d'hommes comme assez souvent plus tard, mais entre deux individus seulement dont l'un, enfant, naît à la vie sociale, et dont l'autre, adulte, déjà socialisé depuis longtemps, lui sert de modèle individuel. . . . Avant de parler, de penser, d'agir comme on parle, comme on pense, comme on agit dans notre monde, nous avons commencé par parler, penser, agir, comme *il* ou *elle* parle, pense, agit. Et ce *il* ou cette *elle*, c'est tel ou tel de nos familiers.

VIII.

The foregoing extracts, written from very different points of view and with more or less definiteness and eloquence, seem to lead up to and confirm the view which I desire to impress upon my readers—namely, that the first introduction to the real or objective world is through the influence of a personality or personalities.

These appear on the firmament of the child's purely subjective consciousness as luminaries which introduce it into a new world, which from that moment acquires in the child's mind a separate and independent existence. The more definite the outline of these living figures becomes, the more the purely subjective feature which accompanies them sinks into the background and a perceptive and intellectual process arises which is the beginning of observation and thought.

Percep-
tual and
emotional
conscious-
ness.

But these earliest lights on the horizon of the child's mind which arrest its attention are not purely objective—*i.e.*, completely detached: their appearance is accompanied by an emotional element, by pleasure and pain, stimulating impulses and producing and guiding desires. And it takes a long time before the purely perceptual portion becomes completely separated from the emotional.

We may sum up this statement by saying that the dawn of the external world on the horizon of the child's mind is, not only the appearance but also the emotion and warmth of personality. This view, that personality is the introduction to the conscious perception of an external world, or, that a portion of the stream of thought or the firmament of the soul has been singled out and detached from the moving and changing totality of the whole field of consciousness, implies a variety of definite features in the early history of individual mental development.

To some of these we must now direct our attention.

The instant at which the figure of a person flashes, as it were, on to the background of the mind's consciousness, is the moment of birth of the distinction between object and subject: the former consisting in a definite number of fleeting experiences, having become consolidated to a more or less permanent or recurring cluster, analogous to the constellations of stars on the background of the physical firmament. In contrast to these more definite clusters or complexes, which we may term objects, the remaining background in which they are embedded and to which they belong becomes the subjective side.

Distinction
between
subject
and object.

Many psychologists consider that the truly conscious life of the human soul begins only with the distinction of object and subject. This view has been very prominently put forward, *e.g.*, by Renouvier in France and by James Ward in this country. It also

constitutes a prominent feature in the metaphysical doctrine of Fichte and Schelling.

The manner in which it presents itself to us here is that the object or not-self is, in its definiteness, prior to the self, which acquires only gradually that separateness and permanence in the stream of consciousness which we attribute to it in the conception of our own personality. In fact, it is not till the child becomes aware of its own body that a consistent picture, as it were, of its own self flashes upon its consciousness in a similar way to that in which other personalities had already presented themselves. From that moment, and all through life, the word Self acquires and retains two definite meanings: the first being that small portion of the external world which is occupied by our own physical frame; the second being that original, all-comprehensive stream of consciousness or firmament of the soul which contains all external as well as all internal experiences.

Two
meanings
of Self.

IX.

It may here be opportune to refer to a contention which has frequently been put forward against views similar to that now before us.

The subject does not enter into the course of our argument, and is perhaps not of much interest to the general reader. But it refers to a point familiar to readers of philosophical treatises. The word Solipsism ^{“Solipsism.”} has been coined to denote the doctrine that every self only knows what is contained within the circumference of its own thoughts, and that there is no valid reason for any individual to maintain the existence of anything beyond this circumference. From the beginning of this Essay, the view has been held that for every individual mind the stream of thought, or the moving firmament of the soul, is the only reality. But we have been careful to avoid the suggestion

that there is an independent self or mind which, like an onlooker, experiences this stream of thought, or beholds this moving firmament. For us, all that exists in the primordial consciousness is this stream of thought or moving firmament, and should we wish to use the terms soul, mind, or self, they would express nothing but the totality of this moving and changing experience.

The term Self as denoting something apart from this experience is a notion acquired after a not-self has been detached in the stream of thought from its surroundings; and to speak of a self without a not-self is impossible, as the not-self creates the self, which latter only gradually becomes concentrated in the conception of bodily existence.

The word Solipsism is a compound of two words, of which the first, *solus*, means alone, and the second, *ipse*, means self. Now, if the self is taken to mean not our empirical personality as we know it in the later stages

of the development of consciousness, but merely the totality of all our thoughts, then it is quite true that such in the beginning of life must be there alone with nothing else. In this sense every infant is a "self alone." But the word "self" has then no proper meaning as opposed to any other self.

In a sense true.

No self at first opposed to other.

The manner in which Fichte expounds his doctrine, though it can be translated into a statement similar to our own, is nevertheless misleading. In the introduction to his 'Wissenschaftslehre' he maintained that the "ego" or "I" posits the "non-ego"; whereas according to our view, the "non-ego" in the form of a person is, in the child's consciousness, the first appearance of external or experienced reality, and the "ego" or "I" comes by contrast much later.

If Fichte, instead of using these awkward terms, had in the first instance referred to the stream of thought, in which a definite something arises as the first intel-

lectual experience, his exposition would not have led to so much misunderstanding.

Criticism
of Des-
cartes'
"Cogito."

The same error is contained already in Descartes' dictum "cogito ergo sum." As critics like Huxley, William James, and others have pointed out, the fact that thought is there does not imply the existence of a separate thinker: the statement should have run, *Cogitat ergo est* or *Cogitare est*.

A second point which arises out of the view we have adopted is the following: the awakening of the child's mind to a knowledge of the external world is, we maintain, dependent upon and in the form of a personality or personalities. This view goes straight against another prejudice which clings to much psychological theory, and is only being gradually dispelled.

A person presents itself to observation, even to that of the adult mind, as a totality: and as such also it must have been first recognised by the infant mind. We

are so much accustomed in practical life as well as in scientific research to look for what we term simple data and to construct complexes or totalities out of such simple data by putting them together; we are so much in the habit of proceeding by analysis and synthesis; that we are apt to forget that observation in its beginning is always face to face with complexes or totalities, and that the search for simple elements, be they physical or mental, is a very difficult process which comes much later, and is probably never complete or final.

Against this refined and tardily acquired process of analysing and subsequent collecting what we have found into an aggregate, the first acquaintance with anything real is always that of a totality or a "together."

The first view in fact is synoptic, and neither analytic nor synthetic. Such must also be the first living impression of a personality in the infant consciousness. Now it is a peculiarity of the recognition of all

Primordial view
synoptic.

totalities as such, and not as mere aggregates or mosaics, that they impress the mind with something which the slow process of putting together does not afford. The process by which, out of a mere collection, assemblage, or aggregate a definite coherent image emerges is instantaneous, adding something indefinable to this aggregate, putting as it were life and reality into it.

Lost in
analysis
and not
restored
in syn-
thesis.

This applies to all higher experiences even of the adult mind. The synoptic view gives something which analysis loses and synthesis alone cannot be certain to recover or restore. This is the impress of such reality as we term natural, and contrasts with what is merely artificial.

Illustra-
tions.

One or two examples of this from ordinary experience will assist the reader to realise what is meant. A few strokes put upon the canvas by an artist may, to an observer who beholds the working of the artist's hand, be nothing but a seemingly disorderly assemblage of line and colour, till all at once the

slightest addition of a few more touches, such as the insertion of an eye, gives to the whole the appearance of a portrait full of life and meaning.

Two photographs, placed alongside of each other in a stereoscope, may present nothing but a blurred surface of lines, light, and shade, till all at once, through an unconscious process, the two pictures fall into one and present a landscape or figure in bold relief. In the process of ordinary schooling or in the deeper studies of later life, the mind of the child or the adult may laboriously and painfully gather up details of words or numbers or other symbols and derive small satisfaction, till all at once and of a sudden the meaning of the whole flashes upon the intellect and brings light and interest. The countenance of a friend coming suddenly into your presence may embarrass you for the time being, till you of a sudden recognise well-known features, calling up a whole world of recollections. The

suddenness in the recognition of the meaning or deeper reality of a collection of sense-impressions or thoughts is nowhere more striking than in listening to a musical performance or to the words and flow of language of an impressive orator, and a great part of the artist's or composer's genius is shown in the suddenness with which he gives to the assemblage of words, lines, or sounds the life-giving touch. In fact, we may agree with a view suggested in the writings of Lotze, that the work of an artist consists in giving to the beholder a surprise, and that Beauty is a joyful surprise.

Something similar to this sensation must be the experience of the infant soul when the numberless traits of affection, the cares and the caresses of the mother or nurse, all at once start into relief in the countenance and figure of a personality which stands out from the background of the stream of consciousness or the firmament of the soul, as the first revelation of reality. The un-

Revelation
of other
person-
ality.

expected coming and going of this figure, its changes as well as its recurring characteristic features, introduce into the flow of thought the first notion of existence and its opposite, of to be or not to be.

The primordial reality upon which we dwelt at the beginning of this Essay, and which forms the background of and includes all experience of the individual mind, is simply there and does not suggest any not there,—it has no negative, it is simply an affirmative.

Reality or existence, as opposed to non-^{Dawn of reality.} reality or non-existence, dawns upon the child's mind only with the recognition of a definite something, and this something is, in the first instance, a person. Thus the primordial and earliest notion of reality is bound up with the conception of personality. To free it from this original feature, to distinguish lifeless things, to strip the external realities of their personal attribute, is a secondary process: it is acquired by the

child only through the help of personal influence, and forms one of the earliest tasks of instruction, as it also persists through life as a principal task in practical and scientific work.

X.

From the moment of this awakening in the child's consciousness, the mind will have before it two separate orders of experience, which may roughly be described as subjective and objective. The former is continuous in the course of our waking life: it comprises everything that happens in the stream of thought, or that appeared within the firmament of the soul. The second or objective order is the aggregate of those experiences which stand out from the background of the stream of thought as definite things, the first of which are as we maintain persons. They possess, in addition to more or less

clear outline, distinct features and vividness, an emotional fringe; they are not so clearly separated from the background of the firmament of the soul as the lifeless objects which are recognised later and which we term things.

But the whole of this objective world, be it more or less distinct, is merely a selection unconsciously produced in early life. It is not a continuum, but a more or less disconnected assemblage of special experiences which possess certain attributes in common. Two of these attributes, and probably the most important, are their spatial and temporal appearance, the fact that they present themselves in space and that they come and go and return again in the course of time. They are, so far as our subjective experience is concerned, discontinuous, and give rise to the conception of distance in space or empty space, and of distance in time or empty time.

The
"objective
world," a
selection.

In later life, and especially in scientific

Attempt
to restore
contin-
uity.

research, we try to restore that continuity which the things of the objective world, in consequence of their detachment from the continuous background of consciousness, have lost.

This endeavour, so characteristic of advanced science, is probably prompted by and had its origin in the primordial continuity of subjective experience, out of which the objective world is merely a selection.

But it is quite evident that without this separation of things and events in time and space the intellectual process could never begin, and that it practically ceases if and when all separation in time and space is abolished. An analogy may make this clearer.

The first intellectual achievements in astronomy were based upon the observation of detached stars, not of the whole of the visible firmament. A result of this selection in the study of the heavens was

the creation of gravitational astronomy with its conception of action at a distance between detached bodies in space. This view may be independently elaborated so as to form a distinct science, but it does not embrace all the phenomena of the starry heavens. No note is taken in it, *e.g.*, of the propagation of light and heat; none also of electrical phenomena; still less does this science concern itself with meteorological phenomena such as envelop our planet.

But it was only by detaching certain definite classes of phenomena from the general aspect presented in nature that intellectual progress was made possible. In like manner the definite sensations which cluster together and form what we term external things, can be observed and studied as an independent world which stands out from the background of the field of consciousness; although we must never forget that, in the original sense of reality, they have for us no other existence than that

Con-
tinuum
broken for
intel-
lectual
progress.

remaining portion which, for the sake of convenience, we leave out of consideration in science and practice.

XI.

The task of genetic psychology of the individual mind is to describe the different stages through which a clear recognition of the external world and a scientific knowledge of it is acquired. It has, *inter alia*, to show the part which memory plays in bringing back into the field of consciousness experiences which have disappeared, in connection with which it may be noted that, without the forgetting or losing sight of what at any definite moment fills our mind, the intellectual process of analysis and synthesis would be as little possible as would be the recognition of definite things without the notion of empty space, or that of events if they were not separated by dis-

tance in time; and, in fact, as the practical every-day conception of reality would be without the accompanying conception of the absence of reality, or nothingness.

But this and many other important points must not detain us at present, as our object is not to write even a meagre sketch of psychology, but to apply those special views explained in the foregoing pages to a definite problem. The reader will have already seen that our reflections so far lead up to a broad distinction between two worlds or orders of things,—the world of separately definable things, which we term the outer world, and the entire field of consciousness, which we term the inner world. At the same time, from the point of view we have taken, this way of stating the matter is incorrect and misleading. And in so far as the reader will also have guessed that this broad distinction between two worlds corresponds in some way or other to the distinction between the scientific and the

Hence
arises
antithesis
between
scientific
and
religious
aspect.

religious aspect of things, he will have further inferred that the conflict which we meet with so frequently between science and religion is traceable to the mistaken view expressed by the words outer and inner.

We have indeed been at some pains to convince ourselves that what we term the outer world forms, from our human point of view, only a part, and that a very small part, of the whole field of consciousness which we term the inner world, and to which we, in adult life, continually return.

Inner
world as
contin-
ing the
whole.

For us, the position of the matter is exactly the opposite to the external aspect. The whole field of consciousness is the larger and wider totality of all our experiences, not only of those which we term physical, but, including these, also of the varying emotions, desires, and volitions which surround and accompany them. Within this totality, what we term the physical world is only a selected portion.

It will therefore now be necessary to examine how we come, in the course of our mental development and education, to reverse this natural order of things and to look upon that smaller and selected aggregate of experiences which we term sensations, as being the larger Universe, within the circumference of which each of us, as an individual, occupies (with all its inner life and the totality of its self and its consciousness) but an insignificant place.

Why we
reverse
the
natural
order.

XII.

This view, which accompanies us through life and has been much strengthened through the discoveries of science, must have dawned on the infant mind as the third important discovery in the progress of its wakening intellectual life. According to our view, the recognition of a personality or personalities constitutes the first distinct

Stages of
child's
mind.

appearance in the developing mind of a definite external reality which stands out from the background of the firmament of the soul. Through continued intercourse, varied and repeated, with these defined realities, the child's mind is introduced to lifeless things which do not possess that emotional fringe or warmth of feeling connected with living things. A third stage is reached when something intermediate between the two classes of objects is recognised by the developing mind in its own physical existence, in the shape of its body. Only when this stage is reached can a clear notion arise of a self as distinguished from other selves and other things. At the same time the attention of the mind is, to a large extent, withdrawn from the general flow of the primordial consciousness: the original self sinks into the background, and the whole field of consciousness may at times be almost completely filled with definite complexes of external sensations.

In such moments a more or less complete absorption in some external object may take place in the child's mind, not unlike that which may happen to us in adult life, when, *e.g.*, we are completely absorbed in some representation on the stage, or when we listen with closed eyes to some imposing and wonderful performance of musical sound, or when the astronomer, looking through a telescope at the starry heavens, forgets himself and everything else, his mind for the moment completely absorbed in, or at one with, the overwhelming spectacle of the nocturnal firmament.

For the purposes of its later life this third discovery in the course of its mental history is of the greatest importance to the developing mind both intellectually and emotionally. It signifies the sinking into the background of those purely subjective feelings and desires which formed the totality of the experience of consciousness in the earliest stages of waking life.

Sinking of
subject-
ivity into
the back-
ground.

What become more and more important, are things, lifeless and living, among which the subjective mind with its bodily frame is moving about, and to which it has to accommodate itself.

Demands
of practice.

The practice of life now begins, with its demands for definite and clear perception of an outer world, and control of the self. This definition and clear perception is the beginning of practical knowledge as well as of moral conduct.

XIII.

Thus it comes about, that when in adult life we look at the world, it presents to us an aspect entirely opposite to that which greeted the infant mind on its entry. For the latter, everything was indefinite, indistinct, and continually changing.

What we term sensations, in the narrower sense of the word, so far as they existed in

the infant mind, were mixed with purely subjective feelings, with desires and nascent volitions. The mind was then what has been termed "a presentation and motor continuum."

"The baby, assailed by eyes, ears, nose, skin, and entrails at once, feels it all as one great blooming buzzing confusion; and to the very end of life, our location of all things in one space is due to the fact that the original extent or bignesses of all the sensations which came to our notice at once, coalesced together into one and the same space."¹

The whole object of instruction and education seems to be to break up this continuum, this kaleidoscopic and rapidly changing aspect, into definite impressions and experiences; to contract through attention the field of mental vision; to arrest with the help of memory what is fleeting, and to forget, for a time at least, the connection in which the object of

Breaking
up of con-
tinuum.

¹ William James, 'Principles of Psychology,' i. 488.

our discrimination stands with other objects, and how it forms in the stream of consciousness only an insignificant item. How this process of discrimination and of limitation of attention and interest is based upon spatial and temporal relations, upon distance and intervals, upon forgetting and recovering by memory, it is one of the tasks of psychology to describe in detail. For us, it suffices to note that these are some of the more important features in the formation of our full-grown view of the world.

But though theories of time and space and memory are of no interest to us at present, it is of importance to take special notice of some of the definite habits of thought which, through that educational process, we have acquired, and which we practise also when, in the secluded moments of inner reflection, we try to regain the wider and deeper view of things which embraces not only external objects, but, with an equal right, that portion of our experience which has not become in

the same manner objective, communicable to others, but which remains, as it were, our private possession.

Feelings, desires, unsatisfied volitions, hopes, and fears, crowd in upon our consciousness, and strive as it were to attain admission into a world of reality which, though different, is no less truly real than the often oppressive reality of our external surroundings.

If personality is the first introduction to a separate world, and communion with other persons the second important factor in the gradual clearing of our impressions of this new world, the most important of all is language — viz., the connection of definite sounds and words with definite sensations or complexes of sensations. How this indispensable mode of communication with others is acquired by the child's mind, whether by imitation or otherwise, is and will always remain a mystery ; as indeed, in the history of the human race, the first appearance of

language remains, in spite of the many theories which have been put forward, a miracle and a revelation. For it means, no less in the life of every individual than in that of the human race, the full awakening of the intellect.

Artificial
view of
things.

At the same time this awakening of the intellect is also the beginning of an artificial view of things, which we are apt to put in the place of the original reality, the primordial stream of thought. Through the acquisition of language we come unawares under the tyranny of words, signs, and symbols, and it is with these rather than with the original experiences and thoughts that we become occupied.

This is shown by the fact that it is extremely difficult to assign to many words, which we are in the habit of using, any definite meaning. It is in truth only when we can point to a definite thing or phenomenon in space that we can be quite assured that what we mean is clearly defined.

Thus it comes about that spatial location and relations lie at the origin and bottom of all the thoughts which we can communicate to others, and that these acquire, through this property, a stronger impress of reality.

And the tendency of organised thought—*i.e.*, of scientific knowledge—is to reduce every matter with which it deals to definite spatial data and their connections. Even logic itself can hardly do without symbols ^{Spatial symbol-ism.} taken from arithmetic, algebra, or geometry, and geometry appears to have been the oldest of the sciences.

XIV.

The process of selection of well-defined sensations which occur again and again in the same or similar aggregates, or which follow each other in the same succession in time, gives rise to two distinct conceptions which involuntarily arise in the course of

Substance
and cause.

early experience and are fixed by special words and terms. These are the conceptions of substance or matter and of cause and effect. They are an unconscious admission by the reflecting mind of the "together" which single sensations in space and time exhibit. They signify, as it were, the desire to express in language not only definite, isolated sensations and events which are embedded in the stream of thought, but pre-eminently also their connection and coherence, in the shape of things and events. They constitute a tacit admission that a mere enumeration of isolated and detached data does not do justice to, or exhaust the nature of, our actual experiences. They suggest that something is lost in the selecting, dividing, and atomising process of attention, and that expression must be given to the special kinds of coherence that exist in the recurring complexes and successions of those data.

Attempt
to express
unity.

The mind involuntarily aims not only at synthesis or putting together, but at the

restoring of that unity which possesses immediate evidence to the original or synoptic glance.

And yet this search for the lost unity of appearance, because it is expressed in language by a definite word, leads us to the delusion that substance or matter is a definite datum of consciousness similar to definite sensations of colour, sound, or touch, and prompts the futile desire to find somewhere in the things of the external world a special kernel of reality which they do not possess.

No application of the process of selecting and defining is of more importance in the gradual development of the intellect, which for us is identical with the ever increasing clearness with which we observe the external world of space, than that which takes place in the clearer recognition of our own self as a definite thing moving about among other things and persons which are likewise in motion. It is here and then that we experience a definite sensation which is dis-

Recogni-
tion of
self.

tinguished from what are usually termed the sensations of the five senses.

This additional experience has frequently been considered to constitute a sixth sense.

Resistance
and effort.

It is the sense of resistance and of corresponding effort on our part. Whereas the other senses, beginning with the sense of sight and ending with that of taste, may be roughly graduated according to the greater or lesser degree to which they take us, as it were, out of ourselves, making us forget the subjectivity of all sensations and experiences in so far as they are a part of the stream of thought, the sense of resistance and effort brings home to us our own self in an intensified, and at the same time narrowly contracted experience.

Self and
body.

We now concentrate our attention in the course of life more and more upon that comparatively small portion of existence which we call our Self in the midst of social surroundings, and which we inevitably identify to a very large extent with our body.

To what extent this identification takes place in different minds is a question for individual as distinguished from general psychology. Thus we may ask the question and receive from different persons different answers. In thinking on past events in your life in which you played a part, do you or do you not see yourself, as it were, in bodily form and in definite physical surroundings? Are you able to think of yourself without bringing in the impressions of your own bodily form in some shape or other? It is quite clear that we cannot think of other persons or things without gathering up our thoughts and connecting them into some physical form or figure. But as soon as we realise this, we realise also that we possess of ourselves a knowledge of something which, though intimately connected with the bodily figure, is yet clearly distinguished from it. This is, of course, our primordial self, from which all conscious Primordial self. life started.

Trained as we are through education and the practice of life to conceive as a substance the kernel of reality of external things, we involuntarily desire also to conceive and represent to ourselves this accompaniment of our physical frame as a definite thing, though we distinguish it from lifeless things or matter as something less tangible, which we call mind.

That it has as little reality by itself as matter must be quite evident from the point of view which we have taken from the beginning. It is merely an expression of the totality of our experience, in which the stream of thought is not lost, though it passes away out of the field of consciousness; in which the firmament of the soul no more falls asunder into disconnected particles than that of the physical heavens, both being held together in a connected whole, which we can only experience but not define.

Matter
and mind.

Matter and mind are only words which

denote the coherence of things in space and time, as also of the contents of that larger experience which constitutes our primordial self.

XV.

One of the most striking attributes which cling to this conception of matter and mind is this, that we, in thinking of either, attach to it a greater importance, and as it were a more solid reality, than we do to the individual experiences of either the smaller but more vivid field of sensations in space, or the larger and less defined experiences in the stream of thought. These sensations and experiences, detached and fleeting as they are, present themselves as possessed of a smaller degree of reality than the substances which we conceive as underlying them and holding them together. From our point of view this signi-

Appear-
ance and
reality.

fies only that the totality of any experience, be it a cluster of sensations, a succession of events, or the momentary aspect of our mental firmament, is of more importance, being more truly real, than the particles into which we may, for the sake of convenience, dissect it. This introduces a new conception into our world of thought—viz., the distinction between appearance and reality, the notion of degrees of reality and of the truly real, compared with which the more lively and absorbing existences of the moment afford only transient glimpses.

This conception gains enormous strength from the fact that in ordinary life, and still more in methodical and scientific thought and practice, the clusters of external sensations rivet our attention almost exclusively, making us forget their origin as subjective experiences or constituents in the continuous flow of thought, and divesting them of that emotional fringe which would tend to remind us of their origin and nature.

This is pre-eminently the case when we observe or think of other persons.

Though we acquire early the firm conviction that other persons are possessed of a purely internal and private experience similar to our own, we know nothing of this hidden life, except by inference, and through their own speech. It becomes, for all practical purposes, an accompaniment of their bodily frame and figure, and not only the popular mind, but even scientific research, is continually tempted to look for this inner non-visible kernel of personality as located somewhere within the physical frame.

For this search there is, as we have already stated, no conclusive warranty. Inasmuch, however, as through inter-subjective communion we gain the conviction that other persons have sensations of things similar to our own, we arrive at the inevitable conclusion that they derive this experience from the same source as we do. Thus the whole

cluster of external sensations stands out as an external world, as a separate reality, of which the images in our own and other persons' consciousness is merely, as it were, a duplicate, comparable to the reflection of one and the same object in a number of mirrors.

It is only one step more in the completion of that consistent picture of an outer world of things and persons, if we look upon this outer world as in time prior to the inner world; the object coming, as it were, before its reflection in the mirror. Although this cannot be consistently upheld, it nevertheless leads to the application of the formula or category of cause and effect to the relation which exists between the object and its reflection.

We thus carry through life the indestructible conviction that outside of the stream of consciousness, which is the origin of and really constitutes the whole of reality so far as we are conscious of it, this internal reality has

a still deeper-lying origin in the existence of an external reality which would abide even if the whole of our stream of thought should come to an end and the firmament of our soul vanish into nothingness.

XVI.

In the foregoing we have merely traced in outline the possible genesis of the various attributes which in the adult and educated mind are connected with what we popularly term reality or existence. That this full-blown reality, which plays such an important part in our practical life, is something very different from the primordial reality, the "cogitare" of Descartes, the "stream of thought" of James, the "presentation and motor continuum" of Ward, or the "firmament of the soul," as we have termed it, is quite evident.

And it takes some effort for the adult

Effort to
realise
source of
reality.

mind to realise that all the attributes which this full-blown reality possesses are nowhere else to be found, and have their origin nowhere else than in this continuous stream of thought in the widest sense of the word, which constitutes our waking and conscious life, and is, in fact, identical with our self.

The appearance of definite sensations, and among them of those that are located in space, which disappear, leaving faint traces behind them by which they can be recognised as they return, the clustering together of them in definite aggregates, the impressiveness they attain in persons who surround us, the distinction of these from lifeless things, the identification of our own bodies, the growing awareness of the parity between other persons and ourselves, the search and discovery of a something which holds external things together, the notion of substance in its twofold form of matter and mind, the alternation of presence and absence of reality, or of something and nothing, the

conception of cause and effect, and the mistaken application of this formula to the relation of reality and appearance,—all these, and many other conceptions with which we work in daily life, appear gradually within the continuous stream of thought, and attract our attention to such a degree that their origin is wellnigh forgotten.

And yet it has been the tardy recognition of this first beginning of all our definite thought, contrasted with the ultimate reality assumed for these conceptions within the confines of waking consciousness, that has been one of the principal results of philosophical research, and the indispensable preparation for a correct estimate of the nature, the applicability, and the value of both scientific and those other less methodical regions of thought which we term ethical, poetical, and religious.

It will now be our task to apply the view so far adopted and cleared up to a comprehension of this partial aspect which those

different forms of thought have developed, dwelling first pre-eminently upon scientific thought and then upon religious thought as presenting a marked contrast, which has frequently led to conflict.

PART II.
S C I E N C E.

I.

IN the foregoing we have learnt that all thought and knowledge, of whatever nature it may be, works with experiences contained in the stream of thought which has its beginning in the narrow field of consciousness during infant life. This stream of thought gains in width, diversity, distinctness, and impressiveness all through the waking periods of our earthly existence.

Enriched through memory and imagination, fixed and clarified through attention, enormously widened through communion with others, the stream of thought, or the

Data of
thought.

firmament of the soul, contains all the data and all the material for the thought and work of our whole life; and the results of these must again find a place within the boundaries of the stream, outside of which they have for us no existence whatever.

We have also seen how, during the years of childhood and adolescence, those experiences which in their totality form our primordial self become differentiated. The most important differentiation, for the practical purposes of this life, is that which sets apart the well-defined and vivid impressions of our senses, which not only attract our early attention, but are clearly marked off from the background through two distinct characteristics; they are more easily preserved and recalled through memory, and they form the data for our communication with others through language.

Most of them are distributed through time and space. They have a definite location and they belong to a temporal series;

and the first of the characteristics mentioned above, that of definiteness, is secured by fixed location in space and definite position in time.

It is entirely through these that we learn to fix our thoughts, to communicate them to others, and to receive communication from them; and though in general spatial and temporal location assist each other, it is an extraordinary fact that time without space is capable of giving rise to a language of its own.

This is the language of music, which to many persons seems able to serve as the vehicle of transmission of definite thoughts which belong to a region of experience quite different from that which is revealed to us through the senses of sight and touch and resistance. It forms, in fact, a revelation of its own, affording an insight into a more hidden range of inner experience. It is, however, well to note that all communication, whether through pictorial and graphi-

Peculiar
case of
music.

cal representation or through language or through the world of sound, depends upon a selection of experiences and a detachment in our mind of these selected data of consciousness from the general flow of thought or the background of the firmament of the soul, and that the latter must be, for a time at least, forgotten.

This process of detachment works so effectively in the development of our intellectual and practical life that it becomes, as it were, a second and independent mode of looking at the world.

Instead of its leading us back to the primordial experience in which all sensations, feelings, and volitions are mingled together, this latter appears to the adult mind as a kind of chaos, compared with which the selected portion of definite sensations and perceptions stands out as an orderly, well-arranged Cosmos, composed of definite recognisable things, which possess an individuality, and more or less permanent

Definite
realities
become
Cosmos.

properties. With this order of things we connect the conception of reality, in the common-sense meaning of the word.

Behind it there still lingers the chaotic Their source a chaos. and less defined stream of thought, possessing, as it seems to us, a smaller amount of reality; and it is only in isolated moments of our life, or only for a few favoured minds, that this half-forgotten background attains to such vividness that the conception of a different and higher reality than that of the external world dawns upon us.

It is pre-eminently the external world that is the subject of all methodical and communicable knowledge and gives rise to what we term science. This deals almost Science deals with the definite. exclusively with distribution in space and succession in time as the properties of definite things and events. It relies on, and works with, the atomising or dissecting process. It creates, by a further process of selection, out of the totality of purely external experiences, a still narrower order of

Primary
and
secondary
qualities.

sensations. It divides the properties of things into two classes, termed, since the time of Locke, primary and secondary. The primary properties have been gradually reduced to location and change of location in space, and to the velocity with which such change takes place. To these two ultimate properties of position and motion in space there has been added, after long periods of tentative theories, a third ultimate property—that of mass or inertia, which, defined for scientific use in terms of distance and time, presents itself to the popular mind as substance or as the kernel of outer reality.

II.

It has been found through experience that, working only with these few strictly defined properties of what we term matter, the human mind is able to build up a complete edifice of abstract thought, and that

this process reveals to us a large and, as it were, new world, which is not imaginary, but can be in many instances verified by subsequent observation.

Abstract
world of
science
verifiable.

This achievement of the human mind was first made secure through the calculations and predictions of phenomena and events in the stellar world, the objects of which possess the simplest and most easily defined locations in time and space. Experiences which to the untutored senses and intellect seem undefined have through this process of dissection and calculation been resolved into well-arranged groups of definite sensations; and the conviction has arisen in the scientific and popular mind that cosmic order without end exists beyond the confines to which, through size or minuteness, our actual observations are limited.

As this process of extending knowledge into regions formerly inaccessible to human thought seems to have no limit and no end, a popular notion has grown up that every-

Its extension
superposed
an endless
process.

thing that is still obscure and undefined in the field of consciousness will in the course of time be attacked and clarified by it.

But subjective whole not grasped.

This view, which has in modern times been held also by some scientific authorities, is now more or less abandoned by those who clearly understand the origin and characteristics of scientific thought, namely that it rests, as we stated, upon a process of selection, and in fact of very narrow selection, within the whole field of consciousness with its manifold experiences.

Discontinuity.

The fact that the elements out of which scientific thought builds up its edifice of knowledge are detached data of experience, introduces into the earlier chapters of every scientific province of thought a property which we may term discontinuity. This contrasts very markedly with the original continuum of presentations—be they sensory or motor—which we have described as a continuous stream or flow. Thus, *e.g.*, the

earlier chapters of physical astronomy deal only with isolated points or bodies in space; the natural sciences only with fairly well-defined species of living things; chemistry with a limited number of well-defined elements; and lastly, psychology with distinct mental faculties or with simple ideas.

A second and higher stage was reached when the conviction forced itself upon naturalists that these detached and seemingly isolated elements and phenomena do not represent the actual world, but are abstractions of the human mind, or artificially prepared objects of research.

A highest principle of thought appeared which has increasingly governed scientific research without being able to fully establish its credentials. This principle is the principle of continuity, which is sometimes upheld merely as a result of experience, and sometimes stated as a necessity of thought. It has presented itself to the scientific mind in two distinct aspects.

Principle
of con-
tinuity.

The first may be expressed by saying: Space is a plenum filled continuously with some kind of matter. The second is the doctrine of evolution, of gradual transition in time.

Thus, although it is impossible for scientific investigation to start or to be carried on without the dissecting or atomising process, there is an equally important tendency to bring things which have been separated together again, and to restore what seems to be their natural order and interconnection in the place of an artificial order which is assumed only as a transition stage for purposes of research, but which is pre-eminently perpetuated in the artificial world with which the progress of human industry and culture has everywhere surrounded us.

III.

But here it is necessary to dwell at some length on this conception of Continuity, the importance of which has probably, in recent times, been exaggerated.

First of all we must note that the two distinct meanings which continuity embraces are not always clearly kept asunder; they were familiar indeed to philosophers long before scientific thought had made use of them and defined them more clearly,—the well-known Latin phrase of the *Horror vacui* and the not less known adage *Natura non facit saltum* giving expression to both.

Expressed in plain English, they signify the absence of gaps and the absence of breaks.

It seems natural to the thinking mind to look for that absence of emptiness in things external which it experiences in its own flow of thought, in what has been

termed the "Sensory and motor continuum." For although this continuum seems to admit of distinct gaps or intervals which are termed unconsciousness, the continuum of thought is, in some mysterious way, restored through memory.

Thus it may be that it is a primordial requisite of human thought, or an axiom, which leads us everywhere to interpolate between apparently detached and separated observations, some interlying reality. This search has been almost everywhere rewarded by the discovery of hidden existences, with which the gaps are filled up. Thus the outer world or space is now generally considered to be a plenum.

With the second form of discontinuity the case is, however, quite different. Though in scientific thought we have been taught to look everywhere for slow and gradual transitions from one event to another in time, or from one quality to another in space, this kind of continuity does not exist in our

consciousness as it develops through infancy, childhood, and adolescence. In fact, one of the main incidents in this development is the emergence of discontinuities—*i.e.*, of breaks in the continuum of presentations. With these breaks, or sudden transitions, science is unable to deal. Science can either describe them merely as facts, or substitute for them some corresponding property which permits of a continuous, gradual transition from one phenomenon to another in time and space. Only in this way can the processes of calculation be successfully applied. This translation of unmeasurable and incomparable events and phenomena into imaginary measurable and comparable quantities, has led to the discovery, through calculation and re-translation, of new phenomena, previously unknown, and this has generated and strengthened the belief that the view which science has substituted for our popular experiences represents the real or objective state of things, compared with which the everyday

With
breaks,
science
cannot
deal.

view is merely subjective. This has found expression in the doctrine, mentioned above, of primary and secondary qualities of matter. Thus colours, so different in their appearance to the human eye, are represented and treated by science as vibrations which differ only in frequency; musical notes are treated in the same way, the continuous series in the first case consisting of wave motions in the ether, in the second case in the air; odours and tastes are represented in science by chemical reactions; and heat and cold, instead of being contrasts, form simply one and the same mode of motion exhibiting differences characterised only by arithmetical or geometrical quantities which form a continuous series.

IV.

In opposition to this view of science, which has also, to some extent, penetrated

into popular thought, it is important to insist that the primordial stream of thought, or the firmament of the soul, presents marked discontinuities, and that it is only through them that clear observation, definite recollections or memory pictures, and thought itself, can exist and develop. It may be quite correct to say that the infant consciousness is, as Schleiermacher termed it, a Chaos, in which sensations, feelings, desires, and volitions are mingled, presenting no definite outline, no spatial or temporal locations. But not to speak of the advanced stage of logical and scientific clarity, the common-sense view as regards mind presents definite colours, sounds, and other sensations, and sudden transitions, which are indeed surrounded by fringes, or the background of indefinite states of sensuous experience, of feelings and desires, but which nevertheless, as we have seen, stand out from this background as a separate world, as a definite order of experiences which can be studied

They are
in the
primordial
stream of
thought.

by itself and connected through thought into an independent structure which we term the outer world.

So far, the common-sense and the scientific view march together; but when the latter attempts, for the purposes of increasing and applying knowledge, to reduce all sudden transitions and qualitative differences to measurable and imperceptibly graduated quantities, it steps beyond the common-sense view of life and becomes unable to grasp in their totality and natural appearance those experiences which alone give interest, variety, and enjoyment to our human existence.

For this existence, surprises are indispensable, and the monotony of scientific constructions would be intolerable except for those rare minds which are engaged in producing it and delight in the result of an intellectual achievement.

But in addition to this, scientific thought itself, in spite of the adage *Simplex sigillum*

veri, has not succeeded in bridging over the more important discontinuities which nature exhibits. Not only is it obliged, as soon as it has filled space with a continuous substance of some kind, to introduce discontinuities into it, in the shape of particles, vortices, strains, or other constructions, not only is motion or change inconceivable without something that moves and changes, but the ever renewed endeavour to extend the purely mechanical view is continually balked by the phenomena of life and still more by those of consciousness: they not only exist for the inner and primordial aspect of things, but show themselves also to the external view on which science depends.

Spatial
discon-
tinuities.

Life and
conscious-
ness.

The argument that the purely mechanical explanation of physical, chemical, and physiological phenomena is only in its infancy, and that its capabilities cannot be measured, is correct or incorrect according to the position which we take up.

For the phenomena of life, as well as of

consciousness, are incapable of being described in the fundamental terms with which the mechanical view operates or of being measured in the units which that view employs. They have no defined location in space, but only correspond with, or accompany, certain very complicated structures which cannot be mechanically built up. These structures, be they the germs of organic life, or the full-grown organism, or certain definite organs such as the brain, are totalities, possessing an individual existence which separates them from lifeless and inanimate things; and it is only by again and again contemplating them as wholes that we become aware of and are impressed with their real nature. In fact, they belong to an order of things with which each one of us became originally acquainted through personal contact; and the real beginning and explanation of them seems, if anywhere, to lie for the human mind in the conception or category of personality. To maintain that through prolonged study of

mechanical phenomena in plants or animals, living or dead, even with enormously improved mechanical devices and instruments, this order of things could be reached, is similar to the assumption of one who should fancy that by counting only the series of square numbers he could, by going on long enough, cover the whole field of ordinary numbers.

V.

Closely connected with the conception of continuity—*i.e.*, of the absence of gaps and breaks, in the external world, or in the course of nature, is another conception which has gradually fastened itself on the scientific mind and has also penetrated popular thought to a very large extent. This is the conception of the uniformity of nature. This expression gives rise to various misunderstandings. These have, so far as scientific thought

is concerned, been to a great extent removed in the better scientific manuals of the present day. In the popular mind there still lurks a conception of the natural order of things which is formed by analogy with the human order of a state or society consisting of many members which are, as it were, kept in subjection by definite statutes that can be followed, but are also not infrequently broken. There are thus two different arrangements thinkable, that of disorder and that of order, and two factors—the members of society and the statutes and written laws which are to be followed. Transferred to the things of nature, this would mean that there are ultimate elements and that there are definite relations to which they are subjected.

The uniformity of nature in this case would mean that the laws or relations of things are in some ways fixed and unalterable, and that the ultimate things and particles of matter are in some indefinable manner forced to follow them.

Out of this dualistic conception has arisen the popular notion of the inexorable laws of nature, into which things are cast as into a network, which keeps them in order.

This primitive view, the origin of which is not far to seek, but which does not interest us at present, is now quite abandoned. The laws of nature are nothing but the expression of the nature of things themselves—*i.e.*, of the ultimate particles of the material world which possess definite measurable quantities of motion; and uniformity of nature signifies simply the conservation of mass and motion, both measured by well-defined methods. And here we must not forget that these elemental factors in which science pictures to itself and constructs its system of thought are abstractions of the human mind, that they are in their primitive nature nowhere to be actually found through human observation, but that they are an artificial product of human thought, by means of which it can define observable

facts and events, as well as in many cases calculate and predict them.

Inappli-
cable to
the prim-
ordial
reality.

Now it is evident that a view of this kind is quite inapplicable to the primordial reality, which we have described as the flow of thought or the firmament of the soul. This is rather characterised by an absence of uniformity, by continual change and by momentary aspects, which never recur so as to present themselves in exactly the same way.

Nor is it possible to analyse the totality of this process—*i.e.*, of the moving field of consciousness—into elemental, definable, and measurable constituents, the nature of which is simple and which present a definite location and measurable modes of motion. These properties belong only to that selected portion of sensations which we term the outer world, and which we can locate in time and space. And even there our methods forsake us whenever we wish to deal with any intricate complex possessing many proper-

Actual
complexes
not wholly
analys-
able.

ties and exhibiting many aspects—*i.e.*, when we deal with natural things. For the real nature of things as distinguished from that imaginary or abstract picture which we, in scientific research, substitute for it, reveals itself to us only if we look at it as a whole and in its natural and ever varying situation and environment.

This will probably in general be admitted so far as living things are concerned. For the history of natural science itself—*i.e.*, of all the sciences connected with the living creation—shows clearly how progress has only been possible by again and again returning to the observation of the world as it is, by stepping out of the laboratory and the dissecting-room into the open air, forgetting for the time at least the abstract methods, the images and models, the selected and prepared specimens of the scientific student. But also where we have to do with lifeless objects, the natural state differs very widely from the artificial state with

This true even of lifeless things.

which most of the products of scientific research and invention are occupied. The latter produce an artificial world which may be of great practical interest and use, and which testifies to the ingenuity of the human intellect, but which leads us away from a comprehension of the nature of things. This nature of things stands much nearer to the artist who lives and works in communion with nature, and whose creations must lose and have always lost their inspiration as often as any artificial aspect, or what is termed style, has attained to an undue influence.

VI.

If we realise with how small a number of data the scientific construction and comprehension of the external world operates, and how even this external world, which forms only a narrowly-selected portion of our total experience, exhibits an enormous variety of

phenomena which the exact treatment of science cannot reach, we are forced to the conclusion that the so-called uniformity of nature, or the inexorable laws, denote a conception which it is at least premature to apply to the whole of existence—be that the events in space and time, or the still larger circumference of our conscious experience.

The fact that nearly all exact thinking, all definitions and calculations, all practical applications, move within a very narrow sphere of ideas, both so far as the outer world and so far as the much larger world of thought is concerned, but that within this very narrow sphere those ideas rule, so to speak, supreme, deludes even the popular mind into the belief that their verdict is final. And so it is if we consider merely the affairs of this life and of our practical work on this earth. They absorb almost the entire attention of most of us: the necessities of bare existence leave little space and time for inner reflection and contemplation,

Why scientific ideas are so impressive.

success in life depending increasingly on methodical training, on concentration and specialisation of attention.

Early instruction in childhood has taught us to look upon ourselves, including the whole of our field of consciousness, as units among a great number of other persons; upon the whole of the human race as one only among the innumerable specimens of animal creation; and upon the whole of this as a very small portion of terrestrial phenomena. Still further—our planet itself is only one in an innumerable crowd of other worlds, in which it almost disappears through insignificance. The whole of this is comprised in the still more overwhelming conception of immeasurable space which embraces, as it were, everything. This process goes more and more to convince us of the unimportance of experiences which belong to each one of us as a private possession, and forces us to assume that those uniformities which have been discovered in the all-embracing universe of

space, so far as it is accessible to our observation, must be the primordial and highest laws of existence.

We have thus two distinct worlds or orders of existence to deal with. The first is the entire stream of consciousness or the changing firmament of the soul: it contains, as a very small portion only, those elementary sensations of sight, touch, and sound, out of which common-sense builds up the external world, and science, with a still greater restriction of fundamental data, its edifice of methodical thought, its picture or model of the universe. We have, secondly, this external world in which our own person, including our entire stream of thought, appears as a mere speck. And it depends upon the position we take up whether the first or the second of these existences impresses us as possessed of the fuller amount of reality. Each contains the other within its circumference, and is itself contained in the circumference of the other.

Which is
the larger
depends
on the
point of
view.

The stream of consciousness includes the entire outer world of space and time as a thought or a mental experience embedded in the surrounding background and flow of other sensations, thoughts, feelings, desires, and volitions. And *vice versâ*, the external world or the universe includes all living beings which exhibit conscious life as phenomena surrounded in time and space by innumerable inanimate and lifeless things which fill space and time.

Transition
from
either to
the other.

Each of these two aspects of reality contains a profound mystery, which we may describe in few words as the transition from either of them into the other.

The transition from the inner world of consciousness into the outer is effected in the early years of our earthly existence through the mysterious influence of other persons. Personality opens to us the view into an outer world of beings similar to ourselves and of countless other objects.

The adult mind, rising from the common-

sense view into that of science, begins with simple elements of thought, and constructs more and more complicated aggregates through which it is able to explain to itself what it terms "the nature of things." In this ascending series it meets with that same mystery which in an unexplained manner revealed to us the outer world,—the mystery of life and, in its highest form, of personality.

To the inner world, external reality seems to contain something which holds together those clusters of sensations which we term things and the knowledge of which we seem to possess in common with other persons: this something is *matter*, for which, as Berkeley told us, we can find no separate idea or experience in the stream of our thoughts. No separate idea of matter.

For the external point of view, the concentration of certain elements into definite centres, the existence of animated things, the very kernel of their reality, remains

Nor yet of equally hidden. This is *mind*, to the con-
 mind as ception of which as substance Hume ex-
 substance. tended Berkeley's criticism of matter. The
 Bond of conception of personality contains for our
 union in earthly experience both of these attributes
 person- joined together in an inexplicable manner
 ality. as soul and body.

VII.

Explana-
 tion and
 descrip-
 tion.

In the foregoing discussion we have fre-
 quently used the term explanation. In
 modern times an argument has been put
 forward and accepted by many that the
 object of science is merely to describe
 natural things and events completely and
 in the simplest manner possible. Others
 have maintained that this is too narrow a
 definition of the aim of science; they hold
 that science has not only to describe but
 also to explain the objects and processes of
 nature—*i.e.*, to make us understand them.

If we consider the point raised more closely, we find that the difference in the two views is more apparent than real.

To describe a thing or an event means ultimately to give to the mind a clear and comprehensible view of it; this is usually attained by a picture, an image, or a model which, if not actually exhibited or constructed, is yet so simple that the person to whom the description is given can construe or represent it in imagination, beholding it as it were with his mind's eye—*i.e.*, putting it together through well-known memory pictures, and in consequence making it easy to hold it fast by memory and call it up when required.

As the mind can only clearly visualise a comparatively small complex of sensations, a description is better in proportion to its simplicity.

It is, however, maintained that for the purpose of prediction of phenomena and for that of discovery of unknown facts and

things, this process of simple description is not enough, for by and in it we isolate things and events and remove them out of their natural connection, divesting them at the same time of their complexity. An explanation requires us not only to define things and picture them so that we can grasp and remember their features, but to bring them also into contiguity with other things and events in time and space.

Two
different
processes.

Thus, to describe and to explain any natural event or object, as for instance a rainbow, are two different processes of thought. A photograph or a picture can do the former better than any number of words: the latter, *i.e.*, the explanation, requires us to bring the thing which is observed or described into connection with other phenomena which preceded it and other things that surround it, such as, *e.g.*, the falling drops of rain and the rays of the sun. These contiguities in time and space are, in the case of most phenomena, primarily hidden

from our view, and the process of explanation consists mostly in discovering and describing these hidden connections. And the explanation is more satisfactory and convincing the wider it is—*i.e.*, the larger the surrounding area of space or period of time that it comprises.

A description not only containing the object or event described, but extending also to the environment and the historical antecedents, would be as complete an explanation as we could desire. Every description or explanation remains, however, incomplete; to become complete it should really comprise the whole universe, allotting to every special thing or event its exact location in space and time.

Such completeness is unattainable to the human mind, which accordingly has to substitute other means by which to satisfy this desire to see things explained, or to understand them.

The manifold features of existence, the

endless variety of colour, shape, sound, in their never-ending change, must in some way or other "contract into a span," so that they may be grasped by the human eye or the human intellect; and this contracted image or symbol must give the impression of completeness, of indicating, suggesting, or embracing a totality: in the highest sense the totality of everything—the Universe, the All. The human mind possesses two very different means of achieving this. The first is abstract thought, the second the creation of the artist.

Abstract
thought
and
artistic
creation.

It is only by learning and applying the abstract notions invented in actual intercourse with others and made precise by science, that we are able, even in common life, to thread our way through the intricacies which surround us, and gradually awaken from the bewilderment which must characterise our earliest thoughts and desires, and out of which a large proportion of our fellow-men never find their way.

VIII.

Description in the narrower sense leads to vision, be this physical or mental; explanation makes us understand things, bringing them into connection with each other and subjecting them to the process of thought. This possesses a movement of its own, and through this movement leads us beyond the contracted region of what we can, at any moment, actually observe and experience. But whilst description and artistic representation excel through limitation and give us pleasure and satisfaction through compactness and completeness within that narrow region which our minds can at one moment grasp and survey, the ever unfinished processes of thought and lines of reasoning lead us into new regions of imagination, which in many cases reveal facts and events otherwise hidden from us. The limitless possibilities of trains of thought once started would, how-

ever, lose themselves in endless wanderings unless they were governed by some strict rule. Such is found or suggested mostly by observation and experience, rarely by purely logical thinking.

To become useful the rule must be clearly defined; and then it leaves by its simplicity the wealth and fulness of actual experience far behind it; it becomes a skeleton or a network, the mere texture, not the real essence of actual things.

Frame-
work of
the world
taken for
interpre-
tation of
reality.

But as it is easily grasped, retained through memory and recalled, it acquires for those minds which use it habitually the impression of a greater reality than that possessed by the fleeting occurrences of the moment, or the casual features of local happenings. In this way this skeleton or framework of the world which surrounds us appears to us as the essence of its reality, as its hidden nature, and from being a mere abstraction it rises to the dignity of being conceived as an interpretation of reality. Common-sense, with

its fundamental but acquired habits of dividing the field of consciousness into outer and inner, and still more the abstractions and refinements of scientific thought, give us an explanation or interpretation of our experience which seems to possess more permanence and more reality than this experience itself.

In using the word interpretation, we feel that we have imperceptibly glided into a different line of thought.

To interpret means to us something more than to explain, it adds something to a simple explanation. The question arises, What is this something which is added? Two answers may be given. We may inquire into the meaning of a statement, and we may desire to understand the purpose of an event. Both of these contain a reference to something lying outside of a mere statement of fact and even of its explanation, however complete these may be. They contain a reference to ourselves, the observing

To interpret is more than to explain.

and thinking mind. They bring the purely sensuous or intellectual analysis of a fact or an event into connection with the emotional side of our nature, or, to use our original terminology, with that background of the firmament of the soul which is made up of feelings, desires, and volitions.

As the latter cannot be as clearly defined, though they are quite as real as the impressions we receive through our senses, or the abstracts we form in logical thought, they have been discarded in purely scientific treatment. The question of the value to us of the things and events in the external world, with that of the end or purpose of things, forms no subject of the scientific investigation of nature or of natural knowledge.

Nevertheless, these questions always recur, and are apt to interfere with what we consider the calm and dispassionate view of scientific thought.

It is not difficult to see how this desire of knowing the meaning and purpose of things

has arisen, and how these conceptions form for us necessary and irremovable attributes of reality. We have been introduced into the world of existences outside of our own self through the early communion with other persons; personality will always cling for us to the highest forms of reality; and the attributes of personality will again and again intrude themselves into our thoughts about external or lifeless things which we have learnt to distinguish as forming the outer world of our senses.

Now among these attributes, those which we term emotional are among the earliest to greet us in our infant existence. The expressions of joy or sorrow, of pain or pleasure, in those persons with whom we are in continuous communion, are almost as clear and vivid to us as our own feelings of pain or pleasure.

Further, we early learn that these personal realities which surround us have a movement of their own, which leads to definite ends:

it is purposive. The first and fullest examples of reality which greet us appear thus as standing in emotional and volitional connection with the things of the outer world. And as we transfer colours, sounds, and bodily feelings which are purely subjective, on to the things, and call them their properties, in the same way, though in a less distinct and definite manner, we transfer the feelings of pleasure or pain and the interests of persons on to the things of the external world, calling them beautiful or ugly, pleasing or displeasing, useful or harmful; in fact we invest them with meaning and value.

Interpre-
tation
brings in
meaning
and value.

PART III.

RELIGION.

I.

IN the first section of this Essay we laid the ^{Recapitu-} psychological basis for the consideration of ^{lation.} two aspects of the world which we term the Scientific and the Religious. Both these aspects spring from the common-sense view which we unconsciously adopt in the early years of our earthly existence.

In the second section we were almost exclusively occupied with showing in outline how the scientific view has arisen and been developed in the course of its long history.

We have seen that it is based on a process of selection, that it deals with a restricted and clearly defined portion of the total field

of consciousness as it accompanies us through life, the whole at once forming our self and containing all reality in whatever terms or words we may describe it.

Common-sense has, without scientific aid, already effected a differentiation or selection of the total content of our field of consciousness, inasmuch as it distinguishes those experiences which we have in common, or believe we have in common, with other persons from those others which form by far the larger portion of the total field, and which we consider to be pre-eminently our own private possession.

This we regard as different from that of other persons, though this difference is not so great that communication with them concerning this portion becomes impossible. Yet whereas the former or selected portion stands out as it were, and is accordingly termed the Outer World, the remaining larger portion forms a kind of background, an individual possession of our self.

We have seen how Science carries this selection still further, limiting its view to such among the data of outer experience as can be located in space and time, clearly defined, and reduced to a small number of measurable quantities. With other data of our outer experience, notably with the qualitatively different impressions of our senses, Science deals by inventing complexes which differ only quantitatively in their properties and their arrangement.

By means of this process of selection, which starts unconsciously in our acquisition of the common-sense view of things and is carried further and made more precise in scientific thought, the mind acquires certain conceptions or abstract ideas, which, so far as we know, could not be formed if the complete stream of thought, or the entire and changing firmament of the Soul, always absorbed our attention.

Of these conceptions we have pointed out some as fundamental in the formation of our

common-sense view of the world and of life. Such are in the first place the difference of subject and object—further, an altered and fuller conception of reality made precise and defined through its contrary conception of nothingness.

Then we have the conceptions of causation, of continuity, of substance, of matter and mind, of natural laws and of uniformity of nature.

All these conceptions are ultimately connected with spatial properties, and more or less, but probably not so intimately, with the temporal series of events, which we however cannot bring within the range of precise definition without a spatial representation. With these conceptions we are not only able to describe things and events, but also to explain them—*i.e.*, to bring them into a connection which is not immediately visible or observable. This introduces us to a different order of things from that in which they actually present themselves to us.

Being more permanent, more precise and simpler, and in consequence more easily communicated to others, it acquires in our estimation a different kind of reality, being as it were the network or framework in and around which the fleeting panorama of our manifold experiences glides past our "inward eye."

But on this road of description and explanation we go a step further, and desire to have an interpretation of the external world or the Universe in its relation to our own selves which are included in it. In doing so we transcend the limits of external observation and bring in imperceptibly a reference to our personal feelings, desires, and volitions.

Science, in the strictest sense of the word, rejects this reference as an intrusion, but is continually brought face to face with it through the peculiar behaviour of things which belong to the living and animated world.

Subjective
interpre-
tation of
the Uni-
verse.

Rejected
by strict
science.

These seem to obey, in addition to the laws of nature, another rule which we term the end, aim, or purpose of their conduct. As Science rejects this aspect as undefinable by its own categories of thought, but as nevertheless this aspect presents itself continually, a special study is required which deals with it exclusively.

Ideal or
Spiritual
aspect of
things.

We will term this, for the moment, the Ideal or Spiritual aspect of things, and with it we shall be occupied in this third section. It will form, as it were, a counterpart to the second section.

II.

In dealing with this background of our conscious and changing experience we are forced to use such terms and words as have been coined in our communication with others, and which can be traced almost exclusively to those definite sensations on which the

common-sense and scientific views are based and elaborated. Thus, what the common-sense view calls the inner life or world, is described nearly exclusively in borrowed terms. Language indeed possesses a comparatively small number of words which seem to point for their origin to something which is not clearly and compactly represented in the sensuous world; but this small vocabulary lacks precision, and in consequence cannot by itself lead to that degree of precise knowledge which common-sense, as well as science, aims at, and to a large extent attains.

There is indeed, as already mentioned, one peculiar form of expression, one powerful means of communication given to us, in musical sounds and their composition; and to many persons this affords a means of expression and communication within the region of emotions, feelings, longings, and desires.

This form of expression, this peculiar language of sound, stands quite apart, reveals

Want of
special
language
to express
it.

Except,
for some,
that of
music.

But this
not trans-
latable
into
ordinary
speech.

a world of its own, and refuses to be translated into ordinary speech.

Indefin-
able back-
ground of
thought
governed
by abstrac-
tions.

Leaving this out of consideration for the present, we may lay down the proposition that the abstract conceptions which we have acquired through common-sense, and made more precise through science, also govern unconsciously that region of thought which forms the more or less indefinable background of consciousness, the emotional fringe of external sensations, and in fact the whole world of interests in which we move and which alone makes life worth living.

Outer and
inner.

Among all these abstract conceptions there is one which, though based upon an illusion, has nevertheless acquired such a dominance in our reflections that it is impossible to remove it. This is the common-sense view that things which we observe have a duplicate existence which we term outer and inner, the latter being our individual sensations, and the former something which we consider to exist independently of our indi-

vidual experience, inasmuch as we know through communication with others that they have similar experiences, and that these experiences have a form of existence which gives them permanence and enables us to return to them quite apart from recalling them through memory. Thus, to give an example, our visual impression of the moon is commonly supposed to be something else than the moon itself, for we know that our fellow-men have a similar visual impression, and we can not only recall this impression through memory, but we can also at the right time, and from the right position, regain the actual observation of the object. This firm conviction upon which the whole of our practical life rests—viz., that what our senses reveal to us has in some way an independent existence outside of them—makes us search for such an independent existence in connection with every mental impression or experience to which we attach importance.

Thus for feelings, desires, volitions, and even for fancies, dreams, and imaginations, we look for some underlying ground which we incorrectly term their cause. Some of these experiences, which belong to the emotional, indefinite, and half-illuminated background of the field of consciousness, have already in the common-sense and scientific view received what we may term a physical, *i.e.*, an external representation.

Pains and pleasures intermediate.

This is notably the case with all those feelings which we class together as bodily pains and pleasures. They stand, as it were, intermediate between those sensations which make up in their totality the outer world, and those other sensations and experiences which are entirely subjective.

Connected with the body.

They are connected with our body or physical self, which forms a kind of link between what we ordinarily consider to be entirely outside or entirely inside.

Many of these sensations of pain and pleasure have a certain local position. They

are recognised by common-sense as well as by science to have, if not an external existence similar to that of our sensations of sight and touch, yet something approaching this, inasmuch as many of them can be connected with phenomena and changes in definite parts of our body.

They, especially the painful ones, are considered as valuable indications of bodily disorder, and are very frequently the first sign and suggestion of such.

This experience introduces a new conception into our reasoning — viz., the distinction we make between order and disorder, between what is normal and what is abnormal; and it leads to the generalisation that disorder and abnormality are sources of, or identical with, pain, displeasure, or discomfort.

For the purely scientific view, this distinction does not really exist.

In addition to this physical explanation or interpretation of feelings of pain or dis-

Normal
and
abnormal.

Distinction for
science
does not
exist.

comfort, science has been able to infer many purely physical or external agencies which are, though unknown to us, the ground or cause of inner states of feeling.

The pressure of the atmosphere which surrounds us produces unconsciously feelings which we do not primarily connect with it; some persons are exceedingly sensitive to the electrical disturbances in the atmosphere; the discovery of radium has revealed to us an extremely powerful agency which may have, without our distinct recognition of it, an influence not only in the external course of nature but also upon our own selves, explaining as has been suggested the medicinal effect of some "indifferent" thermal springs. As the agencies which surround us in the universe are only very imperfectly known so far, as recent progress in science has revealed to us many things and processes formerly unknown, and as these known or unknown agencies exist and must have an influence upon us, it is legitimate

to suppose that many of our most secret feelings, desires, cravings, or aversions may have a physical counterpart; further, that the whole of the universe may have a collective effect upon our inner life and consciousness which we do not suspect and can neither describe nor analyse. This would show itself in the general tone of our whole mental life, and be subject, in different persons, to very different degrees of vividness, something akin to the “feeling of the ‘All’” which forms the object of such an important reflection in Schleiermacher’s ‘Discourses,’ or the “cosmic emotion,” a term frequently used by recent philosophical writers. A similar idea is expressed by Leibniz when he says that the Monad is a “Mirror of the Universe.”

Feeling
of the All.

III.

Not deriv-
able from
the
apparent
external
All.

This explanation of our inner life would be adequate if we considered the external world of space to be the all of existence, the totality of things, containing within it also the inner world as an epiphenomenon or accompaniment of certain physical things and events. As such the purely naturalistic or materialistic view of the universe considers it.

For this view, the whole stream of thought is connected with and dependent on certain organic structures, such as the brain and nervous system and their functions. The difficulty, however, of finding any real location for this inner world, and of defining it in those terms in which all other external phenomena are defined, makes this view, to say the least, unsatisfactory, and in its detailed elaboration quite fanciful.

It is not necessary to explain to the

reader that according to the view adopted in this Essay, the naturalistic view is quite untenable, and in fact reverses completely the order of things. For us the inner world, the whole stream of thought, is the earlier and larger reality which includes what we term the outer world, not as a counterpart but as an integral portion of our total experiences—a portion consisting of defined and detached data, which we bring together into a new connection quite different from that which they present to our actual self-observation.

From this point of view it is quite impossible to refer either a portion or the whole of our emotional life and experience to that selected aggregate of definite perceptions in space as their ground, or fuller reality.

Such a procedure would be analogous to an attempt to explain interstellar phenomena in the cosmic firmament by referring them to the system of fixed stars and their constellations.

If the quest for a fuller reality of our emotional life, of our desires, hopes, and endeavours is legitimate, as it is indeed irrepressible, this fuller reality or ground must be found in a different, a much larger and deeper conception than even the totality of the physical universe can supply to us.

To this we must add a further reflection which has occupied us already in the foregoing pages, and this is the fact that even the purely physical analysis and description of external phenomena seems to leave out something which our immediate perception of them very clearly reveals to us.

“To-
gether”
even of
external
things
evades
synthesis.

The “Together” of things which reveals itself to the Synoptic view is something quite different from the result of a careful dissection and analysis of the component parts, and from the subsequent attempt to bring them together again by synthesis.

Not only is it impossible, by ever so careful and lengthy a process, to find all

the component parts of any structure, be this physical or mental, but the actual form of combination of these parts can never be restored.

The processes of ordinary practice, as well as the more refined operations of Science, do indeed succeed in laying bare some of the component parts or elements of our various experiences, be they what we term things or mental states; and they also succeed in erecting certain structures out of these resultant parts or elements.

But these products of intellectual and practical ingenuity are quite different from the complexes which they analyse and endeavour to explain. Synthetic
products
and
natural
complexes.

For the purposes of this life, these new structures are indeed quite indispensable.

Two among them are of primary importance: namely, first and foremost, the logical order into which we cast the disorderly or chaotic content of our daily experience; and secondly, the growing world

of mechanical and artificial things with which we surround ourselves, and the production of which is, to a very large extent, carried out by means of applied logic, notably by those ingenious and complicated methods which constitute the sciences of pure and applied mathematics.

Meaning
of natural
things.

The desire has always been felt to do something more than dissect and combine again, and out of this desire there has grown an entirely different mental operation, the object of which is to bring out that unity which many natural things impress us with, and which we commonly call their meaning, their deeper sense, their purpose, or their idea. What we in many instances dimly perceive but cannot express by definite signs or words, we nevertheless long to have pictured to us; this gives us what we consider a truer explanation or interpretation of things natural and real than the dissecting processes of daily practice or Science can give us.

It is the merit and glory of Art to afford this deeper explanation: it does so by creating a world of its own,—a world indeed which is merely apparent if compared with the realities of common life, but which in some mysterious manner brings us, as it were, nearer to the real essence of things, to the kernel of reality. From this point of view, the seeming chaos and disorder of our fleeting experiences acquires a deeper meaning. The disorder is permeated by an indefinable spirit, and the whole, as well as its parts, presents itself in a kind of Divine confusion.

IV.

We have thus a fourfold order of experience to take note of.

The first is the primordial reality in which everything must find a place; we have secondly what we term the external world, the selected aggregate of definite and lively

impressions which are removed or abstracted out of the totality of our mental firmament. A further abstraction leads us to that order of thought which is represented by logic, by mathematical forms and symbols, and by what we term "the laws of nature." And we have, lastly, a new order of things constituting a world by itself, and this is either artificial or artistic, characterised, the former by its usefulness, the latter by its suggestiveness and beauty.

Whereas the artificial world which surrounds us and becomes daily more complicated, administers mainly to our practical wants, giving employment to minds and hands, the creations of Art withdraw our attention out of the material sphere, and in their highest and rarest productions aim at restoring that unity which immediate experience and observation suggest to us incompletely.

In some systems of philosophy this function of Art and Poetry is supposed to supply all

we need, or at least all that we can attain, in the way of not only analysing and explaining the contents of our field of consciousness, but also of interpreting it.

On the whole this view, which has cropped up in the history of Thought at various times and in various forms, has not been generally acceptable, for two reasons.

Yet does
not suffice
to restore
the lost
unity.

The satisfaction which we derive through the world of Art is, except for those rare minds which produce it, accessible only to a comparatively small number of persons, and among them so little agreement exists as to artistic standard and excellence that it cannot become a common possession; or if it has done so in rare instances, its success has proved to be only short-lived.

The second reason is, that this satisfaction is, for most of us who enjoy it, purely contemplative, capable of elevating our minds for moments only out of the disturbing complex and confusion of practical needs or philosophic doubt.

Interpre-
tation
ought not
to be de-
tached
from daily
life.

But the interpretation which we desire for the experiences of our inner life must not be entirely detached from the everyday occurrences of our existence.

The course of these occurrences leads us continually into situations where our conduct seems undecided, where we are met by doubt and uncertainty, where an effort and definite resolution of our will are wanted. In such cases, unless we are simply led by habit and custom—*i.e.*, by what others around us decide for us—we require to see before us some ulterior reality which gives an end, aim, or purpose for our decision; in fact, we desire to work for something more permanent than the needs of the moment and to bring some order into our whole life.

The meaning of our inner experiences must be something which is not merely useful for practical ends, but which appeals to our emotions and feelings, and brings them into some kind of intelligible connection with the realities which surround us, and among

these essentially with the members of the society in which we live and move; and more than all, it must be of such a nature and contain such a rule for our conduct as will result in an inner satisfaction, in the feeling that we have done the right thing. We desire to have moments of repose which allow us to close a chapter of our life and start again with renewed vigour and hope.

The complex of feelings, desires, and volitions which constitutes this region of our inner life, this innermost sanctuary of our Self, confronts us in moments of quiet reflection as something possessing at least as much reality as the whole or any part of the external world. Moreover, it is intimately connected with that order of things and persons which we call "Society," and in which we have to find a definite location and position. Must have a social reference.

One of the most important attributes of external reality is the dependence which we experience, the resistance and pressure we

feel as often as we come into contact with it. Similarly, this less clearly defined yet quite as vivid environment which we term our inner life exerts on us a propelling or restraining force prompting and guiding our actions and resulting in pain, relief, or satisfaction. And as, so far as our physical body is concerned, pain and discomfort indicate disorder, so also mental pain, in the form of unhappiness, sorrow, or remorse, indicates to us a rupture or break in what in physical life we call the normal or healthy state of our existence.

Both call for alleviation and a return into normal conditions, into what the physician terms the healthy, the moralist the right, condition. Both force upon us an obligation to seek and restore this.

We have seen that the inner life, the primordial reality, includes the outer world in addition to a large field of less defined thought or experience.

The pressure which we feel in the inner world indicates a reality which embraces the whole of our field of consciousness, and which, if we could see it as clearly as we do restricted portions of the outer world, would explain to us and interpret the whole of reality. For such an explanation and interpretation we are longing with a desire which varies in intensity in different minds and in the changing situations of our earthly life.

Pushed into the background through the material demands which absorb with most persons the greater part if not all of their attention, it acquires at single moments and through special events unexpected power, and rises in certain minds to such vividness and impressiveness that it enables them to give expression to it,—bursting as it were through the limits and the narrowness of those means of communication to which intercourse with the material world has restricted us. This frequently irresistible force points to a reality

behind our emotional life quite as great or greater than that of external things. The word most appropriately defining this reality "Spirit." is in the English language "Spirit."

V.

To define more closely this influence and reality which we term Spirit, and notably to point out more clearly the relation in which we stand to it, forms the principal task and constitutes the importance of what we term the Spiritual or Religious view of the world. This view forms a counterpart to the material and scientific definition and description of things in time and space. The common-sense view contains both these views in a rudimentary form and mutually interwoven: it is communicated to us in the earlier portion of our life, and forms the basis for a clearer, more comprehensive, and more satisfactory theory of life wherever the desire for such

Religious
view of
the world.

Counter-
part of
scientific.

exists. As the common-sense view of the external world which we find ready-made is the elaboration of many minds through long ages, so also the common-sense view of spiritual things which culminates in some religious doctrine is the result of ages of thought and experience of the leading minds. Result of a long history.

But here a marked difference will at once be pointed out by the thoughtful reader. The picture of the external world of things and events in time and space which any age in civilised history has elaborated, presents certain definite and fixed outlines or principles of thought which are universally accepted, and which only the ignorant or incapable can reject. On the other side, what we term the Spiritual or Religious view has, at least in modern times, never attained to an expression which seemed universally acceptable. Apparent contrast as regards general consent. In one word, scientific thought claims for the greater part universal consent, whereas religious thought is characterised by dissent.

Viewed more closely, this difference, which

at first sight seemed so striking, proves to be only apparent.

If we not only study the body of scientific knowledge which exists at the present day, and which is laid down in the leading text-books of science, but go back and review the thought of earlier ages, we find that the amount of knowledge which has remained unchanged is extremely small, so much so that for the learner in almost any branch of science the text-books of the previous generation have become practically useless.

One of the principal reasons of this change, not only of scientific knowledge but also of the principles of such knowledge, is to be found in the fact that the problems of Science do not remain the same, but change with the progress of Knowledge itself. This progress is only of real value if it extends our knowledge of facts which can be verified through observation.

On the other hand, the problems of life,

the highest rules of conduct, remain fundamentally always the same, and have the tendency, even if temporarily disturbed, always to revert to their beginnings, indicating that there is some abiding and unchanging reality at the bottom of things which makes itself felt again and again in the same manner, producing similar emotions, prompting similar desires, and showing itself in similar motives, all of which are surrounded with similar hopes and fears. The ultimate problem of life is in fact always the same, whereas the problems of science are continually changing. It is for this reason that the more advanced and original a scientific thinker or expert is, the less he is inclined to study the history of his subject. Very few works of even the foremost scientific interest are studied for scientific purposes, even a generation after they have appeared. On the other side, the great works of literature, of poetry and art, and the religious Scriptures, are again and again

Contrast
as regards
problems.

resorted to, and with a repeated study appear to us as possessing greater excellence and commanding greater wonder.

The scientific genius of Archimedes, Aristotle, and Galileo was probably quite as great as that of the foremost scientific thinkers of recent times, but who except the historians studies their scientific work? And even they study it not for scientific purposes, but only in the interest of the development of Thought. On the other hand, the works of Homer and of the Greek tragedians, and the philosophical writings of Plato and Aristotle, are read in every civilised country and spread in numbers of editions, and the Holy Scriptures enjoy the greatest circulation of all.

Yet it cannot be denied that the way in which scientific knowledge is presented to the popular mind and to the beginner has something more convincing, and is more easily assimilated than ethical, poetical, and religious discourses, and it is important to

see clearly wherein this property consists which secures such general assent and conviction. Why science carries conviction.

The main characteristic of all scientific thought of the first order is its definiteness; it deals with things which can be detached from their surroundings, considered by the observer, and shown to the learner. This process of definition, this method of exactness, is used by our instructors almost from the very first day of our infant existence. The child's attention is awakened by presenting to it definite small things which its vision and touch can easily grasp; and this process is continued right through the whole of our years of instruction and learning, and is important in the most advanced branches of every science. It is therefore quite correct to term those sciences which practise this method of detachment, abstraction, and definition the exact sciences, and to consider them as models of clear thought and knowledge. It also agrees with this that the Clearness and exactitude.

science which pre-eminently is built upon simple definitions of simple things—*i.e.*, the science of mathematics—is becoming increasingly useful for all other sciences, be they abstract or concrete. Nor is it necessary that a definition of any natural thing be exhaustive of its whole nature or property. Such completeness is indeed unattainable.

What is required and indispensable for success in scientific research, discovery, and invention is, that we start with some clearly defined picture of the subject we are dealing with. Such clear definition is frequently gained only by the use of the symbolic language of Algebra and Geometry. Whether any or ever so many definitions of a natural thing, fact, or event are adequate, expressing what we term the whole truth, is a consideration which most of those who learn, pursue, or apply scientific knowledge rarely ask. The important thing for them is to see and know clearly the thing they are dealing with.

It is indeed necessary for those who lead the advance in scientific knowledge to take note of the incompleteness of every scientific picture or formula. They must always revert to the natural object, which reveals its totality only to the synoptic view. They will there ever and again find new properties which have escaped observation or evaded definition. This synoptic view will reveal to them and inspire them with new truths; but it is only by subjecting what they have found to some clear definition that their discoveries become fruitful.

The history of science affords numberless instances where new discoveries were delayed, not through ignorance of important relations or properties, but through the absence of a clear definition of them.

What we term popularly the certainty of scientific knowledge is not certainty as to its contents, but certainty in its method of statement. The substance of every science is always changing, but the form in which

it is stated is, or should be, clear and defined. Through this property scientific knowledge is easily conveyed and assimilated. But this certainty of form, not of content, is attained through limitation.

Certainty
of method
attained
through
limitation.

On the other side, the aim of the Spiritual (Poetic and Religious) view is always directed towards the totality of our experience, and aims at giving some interpretation of the whole of things and of our momentary and individual relation to the same. For this Spiritual view, the content is the underlying certainty of truth which we experience or feel directly, but vaguely and indefinitely. Whereas the aim of Scientific thought is to extend its limits without sacrifice to the certainty of its method, the aim of the Spiritual view is to improve, to refine, and to vary its method of expression without losing hold of the immediateness, vastness, and depth of its underlying conviction.

Though
vague, it
may be
certain in
content.

VI.

The youthful mind in possession of what we term its full powers of thinking, feeling, and willing, meets, as we have seen, in every advanced stage of culture, with two complexes or bodies of thought or knowledge: the whole body of scientific thought, and the whole body of religious thought. Both originally sprang from what we term common-sense, where they exist interwoven and in rudimentary form. Confronted with these two systems of thought it becomes the task of the individual mind to assimilate them. To facilitate this process of assimilation forms the principal purpose of higher instruction and education.

This common-sense view of the world and life has been acquired by us, as it were, unconsciously through the aid of and in contact with other persons and things. The small and contracted area of the child's con-

sciousness has to be enlarged, deepened, and clarified; yet every addition and enlargement or clearer definition means only a development of that content which existed originally in the infant's mind, though in a confused and indistinct form. It is, however, quite evident that without an influence from outside of a personal nature, the infant mind could not have entered into possession of that clearer and more comprehensive view which forms the inevitable material of all thinking, feeling, and willing in later life. That the sensations of sight and touch, and to a lesser degree those of hearing, play a prominent part in this early development, is not more certain than that there is an indefinable influence passing between the infant mind and the minds of other persons who surround it. And though this influence is exerted through external signs, sensations, and impressions, it is something more than all these taken singly. It is again the synoptic view, the appreciation of a totality which contains something

more than its collected parts and incidents. This is apt to be forgotten when in later life and for special purposes we attach so much importance to, and make so much use of, the difficult processes of analysis and synthesis, of dissection, selection, and artificial putting together. With these processes the original impress of a personal existence which preserves while it changes its totality and unity has little in common; but it is, as stated above, the principal introduction of the child's mind into the sphere of a fuller reality.

This combination of attention to small things, incidents, and sensations, with an unconscious reliance upon the hidden background of a comprehensive impression or feeling, is manifested in that principal instrument for the development of thought which we term language. Together with the visual or tactual significance of words, signs, or symbols, we learn in addition the meaning of their composition in sentences.

Language
and
thought.

It is, however, important to remark that nearly all the words used in language are derived from definite things in space and time, and that the ultimate explanation of their significance nearly always leads us back to things of the outer world which possess definition. There are, indeed, a few words which seem to refer directly to inner feelings, but they lack definition.

Many of them are formed merely by contrast with well-defined and observable things or properties which can be pointed out. Such words are, *e.g.*, infinite, immeasurable, &c.

Difficulty
of express-
ing the
inner
world by
words.

It follows from this that to communicate through language experiences which belong not to the external world but to the larger region of the inner world, we have almost always to borrow words and terms which belong to the former, or to content ourselves with negatives. If we borrow words which, in their strict meaning, belong to the external world, we use them in what is termed a symbolic manner. This produces on the

mind the impression of inadequacy, and generates the ever unsatisfied longing for greater clearness and definition. A large part of the finest poetry written in ancient and modern times is employed in trying to some extent to satisfy this longing for greater clearness by inventing new combinations of words, new images, and new forms of expression, which in some indefinable way arouse in the mind of the reader or listener feelings, reminiscences, and imaginations which cannot be directly communicated. And here comes in the not less marvellous effect of sound in the form of rhythm, rhyme, alliteration, and all the musical properties of verse.

But it is not less important to note that not only in dealing with this less defined and larger region in our stream of thought, but also in describing external things, the object of language is to call forth in the mind of the listener or reader definite experiences — *i.e.*, to influence the momentary

stream of his thought. He has to assimilate and realise in this manner the meaning contained in the speech which is addressed to him. A superficial view might suggest that in scientific works or lectures, the reader gets a great deal of information about things and events which he can never hope to see or experience himself; yet a very small amount of reflection will convince anyone that only in so far as he is able to represent to himself in his own mind the things spoken of, can he in any sense profess to know them. They must become data in his own stream of thought and occupy a place in the firmament of his consciousness. Nor is the process of acquiring and assimilating knowledge simply one of adding data to data like stones in a building. In the latter case, without a plan and the total representation in his mind, the learner would be simply like a labourer or bricksetter; he would in the end possess no more than an irregular heap of stones and no com-

prehensive view of the whole, no idea of its significance.

The process of building up and accumulating fragments of knowledge must lead to, and be completed by, a synoptic view of the whole; the learner or beholder must grasp ^{Synoptic view of the whole.} the whole subject. It is to this end and purpose that all higher instruction should tend. This grasp of any important subject, the entry into the spirit of it, is a mental process difficult or impossible to analyse. It is frequently the flash of the moment which throws light upon the whole region of painfully acquired information and gives it life, a stimulating and impelling force. Hundreds of well-informed persons lack the finishing touch which gives life to their knowledge, and much so-called education seems quite incapable of imparting it.

But if even in the most exact and systematic scientific or practical knowledge this ^{Essential even in the exactest knowledge.} finishing touch is essential, it is still more so when we are confronted with subjects

But pre-eminently to grasp moral and religious life.

which defy the analytic and synthetic processes of science, and where the reality disappears under the hand of the dissector. This is eminently the case with that great region of feelings, desires, and volitions, of impelling motives, and reflections on past events and actions, which constitutes our moral and religious life. Information on these mental states, and interpretation of their meaning and significance, cannot be acquired by painfully elaborated detail or critical dissection; it must be imparted as a whole. The imparter of such knowledge must trust to his power of awakening in his hearers or readers a whole world of sentiment, of producing a state of mind which can only be subjectively felt and experienced, but not objectively described.

Before such a comprehensive view and interpretation of the innermost experiences of our mind, we are placed in contemplating, acquiring, and assimilating any body of religious or moral doctrine, and it

requires an earnest will and a sympathetic attitude to arrive at a valuable and profitable estimation of it. Neither the processes learnt in scientific research, nor those of literary criticism, can here avail. Nor can philosophy do more here than it has been able to do for scientific research. This has invented and discovered its own methods, and so must the soul which is desirous of moral and religious instruction discover the avenues of thought which lead to the goal.

VII.

The main object of this essay might seem thus to be attained; as it cannot be my intention to introduce my readers to any special body of religious thought, any structure of religious Belief; just as little as it can be my object to explain any system of scientific Knowledge, or even to support philosophically any definite principles of

Science. I cannot spare my readers the labour and pains which the acquisition of scientific Knowledge entails, nor the still greater effort and responsibility which the entry into any system of religious faith demands. Both require personal and individual willingness and exertion, aided by (scientific or religious) teaching, guidance, and example.

Having shown how the inner (spiritual and emotional) world is not opposed to the outer (sensuous and intellectual), but embraces it as the larger field of thought, we might stop and throw every thinking reader on to his own resources.

And yet there seems one more task which we cannot altogether decline.

We have seen that, with the exception of the language of musical sound, which stands quite apart, the emotional and spiritual side of our primordial consciousness cannot elaborate any language of its own, and that in order to enter into the work of this life, it must

borrow the words, terms, and abstract notions which are given to us by common-sense and further elaborated by science.

This process of borrowing introduces into spiritual thought certain leading notions which are indispensable, but which carry with them certain restrictions that make them inadequate and unsatisfactory in dealing with the portion of reality from which they were not originally derived.

Leading
notions of
spiritual
thought.

It may be helpful to my readers if I deal with a few of these abstract notions, as they have created, especially in modern times, certain difficulties, and are for many a stumbling-block in the way of arriving at settled religious beliefs. I will deal here only with the following:—

1. The Personality of God.
2. The Immanence and Transcendence of the Divine Being.
3. The question of Revelation and the Miraculous.

To deal with these three questions fully

belongs to religious doctrine or Theology. In the present connection, I wish only to show what light can be thrown upon them by the psychological theory developed in the foregoing pages.

VIII.

Person-
ality of
God.

The idea
derived
from intro-
spection.

The idea of Personality comes to us, like every other abstract notion, from the interior of our own thoughts and from nowhere else. To object to this by saying that personality is an adjective which attaches to certain external things that are possessed of body and mind, is, according to the view we have taken from the beginning, untenable. For all we know through observation, reflection, and intersubjective communication with other persons forms in our own mind merely a complex or aggregate of our subjective experience, occupying a certain place or places in our stream of thought, this word

being taken in the widest sense ; or, to use the other simile, it forms a constellation on the background of the firmament of our own soul. Nor is such a complex or constellation possible or complete if derived only from the external sensations and impressions gathered through the instrumentality of our bodily senses. Not only have we maintained that there exists from infancy an intersubjective communication between our mind and that of other persons, but even in viewing and observing the physical and bodily features of others, we unconsciously add to this content a something which we gratuitously imagine to be contained within or behind this bodily framework and which we derive from our introspective knowledge of our inner self.

And yet it must be admitted that there are two distinct ways in which we can think about our own person, or about other persons. We can either take the ordinary common-sense aspect which roughly defines a

person as an external, individual, living and animated object; or we can think of a person by analogy with our own self, as a stream of thought, a changing firmament, which, in the form of thought, embraces everything that is known to and exists for it.

The correct way is of course to join both aspects in the image of one's own or any other person, omitting however the common-sense but gratuitous assumption that the second image of personality which we possess is spatially contained in the first. But the common-sense view and the practical purposes of this life have pushed the first, *i.e.*, the external view of personality, so much into the foreground, have accustomed us so much to consider everything that exists as located somewhere in the all-embracing space which we term the universe, that it requires some effort, and a sustained practice of philosophical reasoning, to put the second, *i.e.*, the internal, view of per-

sonality into the foreground of our contemplation, as we have tried to do from the beginning of this discussion. Nevertheless this inner view which embraces everything is that which comes to us first; it is nearer to us, and out of it we have to be roused during infancy, childhood, and adolescence, by all the resources of instruction and education, by the schooling of many years and the gradual awakening and strengthening of our own mental efforts.

All this happens unconsciously to ourselves, and the changes which take place in the flowing and frequently recurring streams of our thought do not as a rule form the object of our contemplation till later in life. In fact, the Psychologist, be he a scientific inquirer, a writer of fiction, or a poet, penetrates into the region of our inner life as an adult, from outside, as if this inner life were a subject for external inquiry like that of any other natural object. He tries to enter as it were into another dwelling,

using his own inner experiences and his early reminiscences merely as guides for his search and observation.

But this is not the way in which everyone of us has attained a wider or narrower sphere of knowledge. Neither the child nor the adult mind has any real knowledge of outer things before it experiences all internally : nor is ever so complete a knowledge of our own bodily self or physical environment of the slightest use for the comprehension and knowledge of our true self.

If we once accustom ourselves to look at everything, as certainly we did in the first period of our earthly existence, merely as internal happenings, as a changing but frequently self-repeating panorama in which every incident has equal reality ; if we realise that only through a differentiation and selection which takes place in this changing kaleidoscopic view do we form the notion of external existences distin-

guished as objects from the background as subject; if we further reflect that those objects do not attain to vividness, definition, and completeness till they coalesce into a personal existence outside of us, but still within the stream of our thoughts,—if we realise all this, we arrive at the conviction that this internal possession is the earlier and truer aspect of our own personality.

We then see that the earlier attribute of personality is an all-embracing something, and that the attribute of limitation attaches only to that very small external group of sensations which is united to the image of our own bodily self.

The adjective of personality then signifies completeness, in fact—the All. And in this way we arrive at the notion of a much more comprehensive personality than we experience in ourselves. But from the stage before limits are imposed.

IX.

Our own
self pre-
sented
fragment-
arily.

And yet we must recognise a further important feature which mars the internal view we may take of our own self. While it is true that it contains, in the form of thought or inner experience, the whole Universe so far as it exists for us at all; not only the Universe of space which common-sense and Science consider to be the All, but, in addition to this, the background and surrounding envelope of our purely subjective feelings, desires, and volitions, we nevertheless experience painfully that this internal All is never in the field of consciousness in its totality, but always only as a fragment. For it exists, as it were, on more than one plane, and we have continually to leave abruptly our contemplation of one variegated aspect and to change it for another.

Stirred at one moment to intense observa-

tion of an external landscape or spectacle spread out before us by our senses, we soon lose the absorbing impression through some memory picture, some freak of the imagination, or some sudden feeling which intrudes itself. In fact, the flow of our thought consists as much in momentary impressions, difficult to fix and retain, as in the forgetting of these and falling back into a chaotic state of seeming confusion. In truth, we never are really and fully ourselves. "Memory," as Lotze says, "loses much, but most of all the record of our own individual moods. Many trains of thought familiar to our youth appear to our advanced years as foreign events; powerless to find a road back to sentiments in which we once revelled, we hardly behold a faint afterglow, indicating the power which they once possessed over us; aspirations which once seemed to constitute the very essence and kernel of our self, appear to us on the other paths which life has led us as inexplicable

mistakes of which we have long since forgotten the motive."

Longing
for the
larger
view.

This feature of our inner experience which is identical with our real self produces inevitably a feeling of dissatisfaction which, in some instances, may become intense, a longing for the larger view, for a more comprehensive grasp and a greater tenacity of interest and purpose. We observe also that this essential feature of incompleteness varies among our fellow-men; and those who pos-

The larger
the mind
the greater
the per-
sonality.

sess larger sympathies, broader views, more absorbing interests and greater tenacity of purpose, rise in our judgment to the position of greater personality.

If we take into consideration these two great facts—viz., that (according to our view) it is only through personality that we gain in the earliest period of our earthly existence that entry into a world of Reality which enables us to distinguish our self from a not-self—not only in our external physical features, but also in the recognition of other

minds; and further, that personality always impresses us as the most powerful instance of individual existence; we then come to the conclusion that that which is most real within us must have its ground in an existence which is not only all-comprising but which partakes in an eminent sense of that highest form of reality with which we are familiar in our daily experience.

Inference
from
limited
person-
alities to
complete
person-
ality.

We also noted before that one of the principal attributes of existences other than our own consists in the resistance or pressure which they exert upon our own personal thoughts and actions,—mostly in the indefinable power which other persons possess over us. But the greatest check of all that we experience as we increase in mental development is, as Schleiermacher put it, a feeling of absolute dependence.

Feeling of
absolute
depend-
ence.

This, in reviewing our past life, thoughts, and deeds, reveals to us painfully the shortcomings in our conduct, generating the feelings of guilt and remorse.

The experience of this spiritual pressure upon the whole of our being we trace to the influence of a Higher Power, in the same way as the small checks and pressures in daily life appear to us as the workings of smaller external existences.

The soul and mind of the Universe—the Divine Spirit — is in this way inevitably endowed in our estimation with the attribute of personality, a personality indeed in which the limitations of our own nature disappear, and this in spite of our incapacity to carry out logically this highest conception of our intellect.

“And I smiled to think God’s greatness
Flowed around our incompleteness,
Round our restlessness His rest.”

To this feature of incompleteness and transitoriness which our own personal existence painfully exhibits, we must add another characteristic of personality, so far as we know it. This refers to the apparent contradictions inherent in it; of these none is more striking

and at the same time more essentially necessary than the duplex view of our own self. Duplex
view of
self. On this we have dilated in earlier passages of this Essay.

Starting in the earlier moments of our conscious life with nothing but a stream of feelings, impressions, and desires as the only and all-comprising Reality of our limited world or universe, we gradually and imperceptibly gain a more vivid aspect of our own self as occupying merely a corner in this gradually enlarging Reality.

As this view enriches us with a clearer and, as it were, more tangible image of our own self, it at the same time presents us with the spectacle of a number of other selves and other things, the aggregate of which becomes increasingly the object of our attention. In practice these two aspects are continually intermingled and alternating, and we involuntarily employ each of them to complete and explain the other. It is almost impossible to keep them separate, as,

indeed, the combined work of the highest intellects has succeeded only after thousands of years in clearing the ground for a fruitful cultivation of the purely external aspect—*i.e.*, of the scientific view, with its defined methods. Still rarer and more difficult has been the opposite endeavour to throw off the trammels of the purely external aspect and ascend to that exalted introspective view which is our first inheritance, and the meaning of which we seem to grasp as the last and highest effort our thought is capable of.

On the one side, the clear daylight of a sunny landscape; on the other, the half-veiled outlines of a Spiritual Vision. Both these aspects may be termed Revelations, and they are equally indispensable for the development of a fuller life.

Now, if we are continually tempted, and even forced, to use the attribute of person-

Essence of
the Divine
Being con-
ceived also
as dual.

ality as the only satisfactory definition of the essence of the Divine Being, we cannot escape carrying into it that duality which

characterises our own experience as persons.

We cannot drop either of the two aspects of the finite person in thinking of the Infinite.

We cannot do without individuality, neither At once individual can we do without all-comprehensiveness. and all-comprehensive. In forming the conception of a finite person we see it as one among others, and at the same time as containing in its own consciousness a view of the whole world, so far as the world exists for it at all.

In fact, the conception of the two selves contains the paradox that either of them lies as much inside as outside of the other; and this paradox is solved only if we let our thought wander from one to the other without trying to unite both aspects in one moment of time.

In carrying over the idea of personality to the Divine Being we do not get rid actually of this paradox. It exists, and has been perpetuated there in the familiar theological Transcendence and Immanence doctrine of the Transcendence and Immanence of God. Whilst we must conceive of of God.

the highest Being as an all-pervading and all-comprising Spirit, we cannot sacrifice the other aspect which reveals Him to us as possessed in the highest degree of the moral and emotional nature of which we have become conscious only through intercourse with our fellow-men, and of the highest form in which we experience this, as the object of reverence and love.

X.

There is another important feature in the gradual development of that view of the world, of life, and of ourselves, which the matured mind possesses, and which forms the meeting-ground of different minds, exhibiting sufficient likeness in different persons to enable them to understand each other. We have seen that this mutual understanding or exchange of thought and knowledge shows very different degrees of

completeness in different regions of the total experience which constitutes our internal self, the firmament of our soul.

Within this we have seen that an unconscious selection takes place in the earliest period of our earthly existence,—a selection which is arrived at mainly through the influence of other persons. It results in what we term the common-sense view of the world.

It is an elaboration or interpretation of a definite portion of the manifold experiences of our inner life. We may now ask the question, How does such a transformation or interpretation take place? How does the unity in the primordial flow of thought come to be differentiated into subject and object, into self and not-self? And still more wonderful must it appear to us if we recognise that this transformation within the field of our consciousness is not limited merely to external and well-defined sensations which are gathered up into the view

of an external world, full of persons and things, but that it also produces, to a smaller or larger extent, the unconscious assurance that the indefinable region of feelings, desires, and volitions is likewise a possession which we have in common with others. We can ask how all this wonderful transformation comes about. The process seems to be so natural, it is so much a matter of everyday occurrence, that its intricacy and the complicated nature of the innumerable stages in its history are mostly forgotten.

Accustomed as we are to begin reflecting on these matters only when we are already in full possession of the result of this wonderful development, we regard the same as the indispensable *sine qua non* of our reflections, in the same way as the methodical study of their mother tongue only begins among scholars after they are in full possession of it.

It will be helpful to look at the whole and

changing contents of our field of consciousness and distinguish roughly between the separate experiences according to the clearness and definiteness which characterises them, enabling us to deal with them or to handle them methodically. For our present purpose this classification need not be complete.

We have then, first, a definite object—*i.e.*, sensations located in space. These, in addition to mere location and extension, possess different qualities known to us through our senses. So far as the purely spatial properties are concerned, we seem through geometry and mathematics to have a complete understanding of them. This understanding is less complete when we deal with what we term the qualities of things; the exact processes are only to a moderate extent applicable.

We have, secondly, certain complexes possessing quantitative and qualitative properties combined in such a manner that they

acquire an independence and unity which distinguishes them from surrounding things. They possess, in addition to quantitative and qualitative properties, an essence which seems indefinable for us. These complexes we term living things. If we look around, we find that this indefinable property of life appears in various degrees, as we ascend from lowest forms to the higher, till we come to those complexes which resemble our own bodies and to which we attribute a hidden internal reality by analogy with our own.

In order to go a step further in our investigation of reality, we are obliged to turn our gaze inside, and to deal by introspection with what we find there. And here we meet, thirdly, with an entirely new feature, popularly known as memory.

The different contents of this inner field come and go abruptly, a property peculiar to them and not to be found in things belonging to the external world, which we have learnt to regard under the rule of the

conservation and permanence of matter and motion; these two attributes being defined in a scientific manner.

And we can, fourthly, go still a step further and try to understand not only the rising and disappearing content of our field of consciousness, but also its totality, the underlying feeling of the whole on which depends the unity of our thoughts,—what we term, in an eminent sense, our own self. Clear definitions seem impossible here; only resultant and abiding feelings seem to exist, among which some appear to govern our whole inner life. Among these, a feeling of absolute dependence recurs again and again, and in some minds with greater vividness and compelling force than in others.

It is possible to look upon this feature of our knowledge in different regions of the whole field of our consciousness either as a defect or as a gain. To make this clearer, we may identify the factor which plays an increasing part as we ascend in the scale as

that of personality. For the purpose of this life, for gaining efficiency of thought and independence of character and conduct, progress consists in repressing the personal element as much as possible. As this feature of personality can only be reached by a comprehensive glance at larger or smaller totalities, it is not accessible to the defining and dissecting processes of logical and scientific thought. Though almost every important step in the progress of science itself emanated from an individual and personal effort, the results of this effort are laid down in such definite terms of symbols and language, that their origin in an individual mind is forgotten. They become common property which can be acquired and used. Science, with all its wonderful applications, consists thus in a process of depersonalising.

Science
deperson-
alises.

The per-
sonal ele-
ment to it
mirac-
ulous.

The personal factor is to the exact methods of thought incomprehensible,—an intruder which must be eliminated. Science thus

regards the personal element not only as wonderful but as miraculous.

On the other hand, we only grasp the meaning and sense of smaller or larger spheres of reality by recognising the personal element; and as it was through this that we gained entrance into our physical and mental life, so it is only through returning to it and appreciating its importance in the rising scale of existences that we can satisfy our desire, not only to know and handle things in detail, but to approach an understanding of the whole. What appears to the scientific mind as an intruding and foreign feature—viz., the miraculous—will therefore always be a characteristic feature in the higher and deeper understanding of the world and life which religion offers to us. It may be of some importance to state more clearly what is really meant by the miraculous.

But we only grasp any totality by returning to this.

Meaning of the miraculous.

The miraculous is marked by at least one of two features: it is either an occurrence

which defies our recognised means of understanding, which does not come under the categories of methodical thought; or it may mean an occurrence which has no parallel in experience—an unique phenomenon. The miraculous may partake of either or both of these characteristic features.

XI.

The conception of the Miraculous, be this incomprehensible or exceptional or both, forms the main characteristic of what we term Revelation.

Revela-
tion.
Its wider
meaning.

It is important to note that, from our point of view, revelation has a wider sense than that popularly connected with the term. Accustomed as we are through education and practice to place ourselves on the plane of the external reality as a firm footing for our reflections, we involuntarily look upon the indefinable and incalculable personal

element as an intruder,—a something that cannot be measured with the measure we apply to external things and phenomena. Thus we look upon that element as a stranger who spoils our calculations.

On the other hand, if we take up the position of this Essay, if we realise that before we gained a firm foothold upon the common-sense view of an external world, our stream of thought contained external and internal experiences intermingled, and that this state of things accompanies us through the whole of our life, we are forced to look upon the moment at which, through the personal influence of others, an external reality flashed upon our minds, as a revelation quite as inexplicable as the spiritual revelation of later years.

Now the most important result of the earlier Revelation which opened our eyes in childhood was, as we have seen, to make us distinguish between our own self and other selves, and, in general, to make us find in

Revela-
tion of self
and selves
in child-
hood.

an external reality the counterpart or ground of our sensuous experiences. This process has not only equipped us with the necessary instrument for practical purposes, but it has also the higher importance of making us look for a similar counterpart or ground of that portion of our world of thought which we term the Spiritual.

The result of this search is, as we have said before, the religious or spiritual view of the world and life. Its central conception is an interpretation of our ever-recurring feeling of dependence with its characteristic sphere of emotions, the foremost of which are fear, reverence, and love: they all spring from our relations to other beings like ourselves. On a lower level and for the ordinary uses of common life they are embodied in the statutes and customs of the society in which we live and move.

A higher interpretation sees in them the workings of a highest Spiritual Power.

The effect of this spiritual revelation mani-

feats itself mainly in our active life, as it has also gradually grown up and found expression through spiritual intercourse or communion with our fellow-men. But as we are unable to trace in our individual history the successive stages of our intellectual awakening, of our entrance into the full daylight of a physical world, so also we are unable to trace the slow growth of the spiritual revelation which runs through human history and has culminated for us in the Christian view of the world. That here the personal element plays the foremost part must be evident to anyone who accepts the view which we have tried to explain. And with this personal element we cannot exclude the mysterious or miraculous character of the entire process.

Revela-
tion run-
ning
through
history.

But let us not look upon this mystery as standing alone and without a parallel in the development of our mental life. Is the process by which, from a purely personal state of feeling, we gain through the influence of

other persons the first clear view of this world, less mysterious and more easily explained than the historical stages through which the Christian Revelation was prepared, given to mankind and enabled to attain to that ascendancy which it now holds in western civilisation, and which in spite of repeated virulent attacks it has always held or regained? In both cases, in that of the individual mind as well as in that of the thoughts of humanity, a new light has suddenly arisen : how, and whence, remains an eternal wonder of which the simplest account is given in that Book which for all the great mysteries of life contains the clearest answer. When the teachers of the people pressed the man who had been blind and had received his sight to tell them how this was done, he answered, "One thing I know, that whereas I was blind, now I see."

PRINTED BY WILLIAM BLACKWOOD AND SONS.







