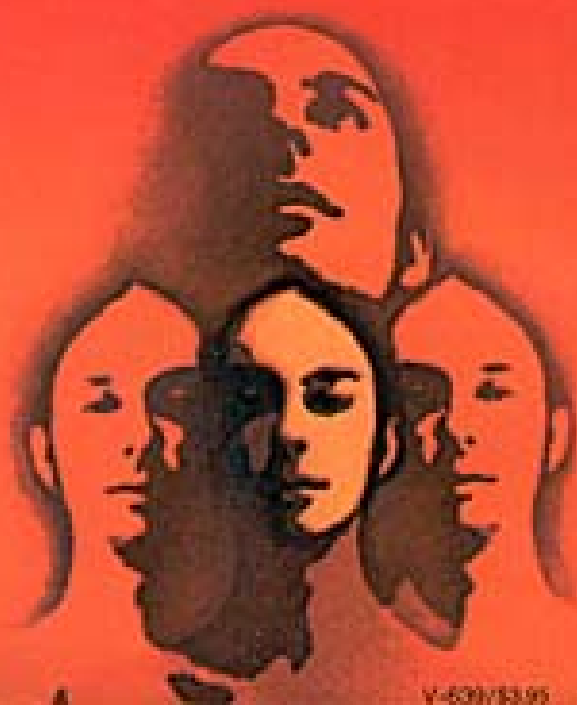


P.D.
OUSPENSKY
TERTIUM
ORGANUM
A Key to the Enigmas of the World



TERTIUM ORGANUM

THE THIRD CANON OF THOUGHT
A KEY TO THE ENIGMAS OF THE WORLD

And sware . . . that there should be time no longer.

Revelation 10: 6

That ye, being rooted and grounded in love, may be able to comprehend with all saints what is the breadth, the length, the depth and the height.

St Paul's Epistle to the Ephesians 3: 17, 18

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SUPERMAN. TABLE OF THE FOUR FORMS OF

MANIFESTATION OF CONSCIOUSNESS.

CONCLUSION

FOREWORD

Tertium Organum, the first of Ouspensky's major works, was originally published in 1912 in St. Petersburg, and a second revised edition appeared four years later in Petrograd. Nicholas Bessaraboff brought a copy of the second edition with him when he emigrated to the United States before the Russian Revolution of March 1917. The book was translated into English by Nicholas Bessaraboff and Claude Bragdon and published by Bragdon's Manas Press in 1920. At that time no one in the United States knew whether Ouspensky had survived the First World War, the Russian Revolution of March 1917, or the Bolshevik seizure of power later that year. In fact, Ouspensky had decided to leave Russia for a neutral country in 1916, but instead he travelled south to join Gurdjieff for a while. In 1920 Ouspensky made his way from Ekaterinodar and Rostov-on-Don to Odessa and thence to Constantinople, where he received the news that *Tertium Organum* had been translated into English and published in America by Bessaraboff and Bragdon. On his way back to Russia from India and Ceylon in the autumn of 1914 after the outbreak of the First World War, his roundabout route had taken him first to London where he had made arrangements for the publication of his books when the war was over. But six years later when he found that *Tertium Organum* had already been translated and published in the United States, he accepted the situation and wrote a preface for the second American edition published by Alfred A. Knopf Inc. in 1922.

In August 1921 Ouspensky moved to London and for the next twenty years worked with a number of his students on the English translations of *A New Model of the Universe*, *Fragments of an Unknown Teaching* (the working title of *In Search of the Miraculous*), *Strange Life of Ivan Osokin* and *Tertium Organum*. The translation of *Tertium Organum* was undertaken by Madame E. Kadloubovsky, from the second Russian edition, and a substantial part was approved by the author. In 1947, at the time of his death, the translation was incomplete but Mme Kadloubovsky decided to finish it, having already received careful directions from the author. The new translation was first lithographed in Cape Town, South Africa, in an edition of only twenty-one copies by Fairfax Hall at his private press, the Stourton Press. Later in 1961, an abridged version was hand-set -

with the help of students interested in Ouspensky's ideas - in the ten-point type designed for the press by Eric Gill. Neither this edition of one hundred copies nor the earlier edition were offered for sale.

The continued interest in Ouspensky's work was demonstrated in 1978 by the establishment of the P. D. Ouspensky Memorial Collection in the Archives and Manuscripts Department of Yale University Library, and it was felt that this was therefore a timely moment to offer the complete revised translation to the general public.

CHAPTER 1

What do we know and what do we not know? Our known data and our unknown data. Unknown quantities taken as known quantities. Matter and motion. What does positivist philosophy arrive at? Identity of the unknown quantities: $x = y$, $y = x$. What do we actually know? The existence of consciousness in us and of the world outside us. Dualism or monism? Subjective and objective cognition. Where do the causes of sensations lie? Kant's system. Time and space. Mach's observation. What the physicist actually works with.

Learn to discern the real from the false.

The Voice of the Silence, H.P.B.

The most difficult thing is to know what we do know and what we do not know.

Therefore, if we wish to know something, we must first of all establish *what* we accept as data, and *what* we consider requires definition and proof, that is, we must determine *what* we know already, and *what* we wish to know.

In relation to our cognition of the world and of ourselves the conditions would be ideal if it were possible to accept *nothing* as data and regard *everything* as requiring definition and proof. In other words, it would be best to assume that we know *nothing*, and take this as our starting point.

Unfortunately, however, it is impossible to create such conditions. Something has to be laid down as a foundation, something must be accepted as known; otherwise we shall be constantly forced to define one unknown by means of another.

On the other hand, we must be chary of accepting as known - as *data* - things that, actually, are completely unknown and merely presupposed - *the sought for*. We have to be careful not to find ourselves in the position occupied by positivist philosophy in the nineteenth century. For a long time the basis of this philosophy was the recognition of the existence of *matter* (materialism); and later, of *energy*, i.e. force or *motion* (energetics), although in actual fact matter and motion always remained the unknown quantities, x and y , and were always denned by means of one another.

It is perfectly clear that it is impossible to accept the thing *sought for* as the thing *known*; and that we cannot define one unknown by means of another unknown. The result is nothing but the identity of two unknowns: $x = y$, $y = x$.

It is precisely this *identity of unknown quantities* which represents the ultimate conclusion arrived at by positivist philosophy.

Matter is that in which the changes called motion take place: and motion is those changes which take place in matter.

What then do we know?

We know that, from the very first step towards cognition, a man is struck by two obvious facts: *The existence of the world in which he lives*, and *the existence of consciousness in himself*.

Neither the one nor the other can he prove or disprove, but both of them are *facts* for him, they are *reality*.

One may speculate about the mutual relationship of these two facts. One may attempt to reduce them to one, that is, to regard the psychological or inner world as a part, or a function, or a reflection of the outer world, or look upon the outer world as a part, or a function, or a reflection of the inner world. But this would mean a digression from facts, and all such concepts would not be self-evident for an ordinary, non-speculative view of the world and of oneself. On the contrary, the only *fact* that remains *self-evident* is the antithesis of our inner life and the external world.

Later, we shall return to this fundamental proposition. But meanwhile we have no grounds for arguing against the obvious fact of *our own* existence - that is, the existence of our inner life - and the existence of the external *world* in which we live. This, therefore, we must accept as *data*.

But this is all we have the right to accept as *data*. All the rest requires proof of its existence and definition on the basis of these two data we already possess.

Space with its extension; *time*, with the idea of *before*, *now* and *after*; quantity, mass, materiality; number, equality, inequality; identity and difference; cause and effect; ether, atoms, electrons, energy, life, death - all that is laid down as the basis of our usual knowledge, all these, are *unknown quantities*.

The direct outcome of these two fundamental data - the existence in us of a psychological life, i.e. sensations, representations, concepts, thinking, feeling, desires and so on, and the existence of the world outside us - is a division of everything we know into *subjective* and *objective*, a division perfectly clear to our ordinary perception.

Everything we take to be the properties of the world, we call objective, and everything we take as properties of our inner life, we call subjective.

The 'subjective world' we perceive *directly*; it is in us; we are one with it.

The 'objective world' we represent to ourselves as existing outside of us, apart from us as it were, and we take it to be exactly or approximately such as we see it. We and it are different things. It seems to us that if we close our eyes, the objective world will continue to exist, just as we saw it, and that, if our inner life, our subjective world, were to disappear, the objective world would go on existing as it existed when we, with our subjective world, were not there.

Our relation to the objective world is most clearly denned by the fact that we perceive it as existing *in time* and *in space* and cannot perceive it or represent it to ourselves apart from these conditions. Usually, we say that the objective world consists of things and phenomena, i.e. of things and of changes in the state of things. A *phenomenon* exists for us in time, a *thing* exists in space.

But such a division of the world into subjective and objective does not satisfy us.

By means of reasoning we can establish that, actually, we only know our own sensations, representations and concepts, and that we perceive the objective world by projecting outside of ourselves the presumed causes of our sensations.

Further, we find that our cognition of both the subjective and the objective world may be *true* or *false*, correct or incorrect.

The criterion for determining the correctness or incorrectness of our cognition of the subjective world is the form of relationship of one sensation to others, and the *force* and character of the *sensation itself*. In other words, the correctness of one sensation is verified by comparing it with another of which we are more sure, or by the *intensity and the taste of a given sensation*.

The criterion for determining the correctness or incorrectness of our cognition of the objective world is *exactly the same*. It seems to us that we define things and phenomena of the objective world by means of comparing them one with another; and we imagine that we discover the laws of their existence *apart from ourselves* and our cognition of them. But this is an illusion. We know nothing about things *separately from ourselves*, and we have no means of verifying the correctness or incorrectness of our cognition of the objective world *apart from sensations*.

Since the remotest antiquity, the question of our relation to the true causes of our sensations has been the main subject of philosophical research. Men have always felt that they must find some solution of this question, some answer to it. These answers alternated between two poles, between a complete denial of the causes themselves, and the assertion that the causes of sensations lie in ourselves and not in anything external - and the admission that we know these causes, that they are contained in the phenomena of the external world, that these very phenomena constitute the causes of sensations, and that the cause of observable phenomena themselves lies in the movement of 'atoms' and the vibrations of 'ether'. It was presumed that the only reason why we are unable to observe these movements and vibrations is because we are lacking in sufficiently powerful instruments, but that when such instruments become available we shall be able to see the movement of atoms as clearly as, through powerful telescopes, we now see stars whose very existence had never even been supposed.

In contemporary knowledge, a central position in this problem of the causes of sensations is occupied by Kant's system, which does not share either of these extreme views and holds a place midway between them. Kant established that our sensations must have causes in the external world, but that we are unable, and *shall never be able*, to perceive these causes by *sensory means*, i.e. by the means which serve us to perceive phenomena.

Kant established the fact that everything perceived by the senses is perceived in time and space, and that outside of time and space we can perceive nothing through the senses, that time and space are the necessary conditions of sensory perception (i.e. perception by means of sense-organs). And, above all, he established the fact that extension in space and existence in time are not properties of things - *inherent in them* - but merely properties of our sense-perception. This means that, in reality, apart from our sensory perception of them, things exist independently of time and space; but we can never sense them outside of time and space, and the very fact of perceiving things and phenomena through the senses *imposes* on them the conditions of time and space, since this is *our* form of representation.

Thus, by determining everything we know through our senses in terms of space and time, they themselves are only forms of our perception, categories of our reason, the prism through which we look at the world. In other words, space and time are not properties of the world, but merely properties of our perception of the world by means of sense-organs. Consequently, the world, taken apart from

our perception of it, has neither extension in space nor existence in time. It is we who invest it with these properties when we sense and perceive it.

The representations of space and time arise *in our mind* on its contact with the external world through the sense-organs, and they do not exist in the external world apart from our contact with it.

Space and time are *categories of our reason*, i.e. properties which we *ascribe* to the external world. They are only signposts, landmarks put up by ourselves, for without them we cannot visualize the external world. They are *graphs* by means of which we depict the world to ourselves. Projecting outside of ourselves the causes of our sensations, we build up these causes in space, and visualize continuous reality in the form of a series of consecutive moments of time. We need this because a thing that has no extension in space, does not occupy a certain part of space, and does not exist for a certain length of time, does not exist for us at all. This means that a thing without space, not placed in space, not taken in the category of space, will not differ in any way from another thing; it will occupy the same place as that other thing, will merge into it. In the same way, all phenomena taken without time, i.e. not placed in time, not taken in one or another position from the standpoint of *before*, *now* and *after*, will happen for us simultaneously, blending with one another, as it were, and our weak reason will be unable to disentangle the infinite variety of *one moment*.

Therefore, our consciousness segregates separate groups out of the chaos of impressions, and we build, in space and time, representations of objects which correspond to these groups of impressions.

We have got to divide things somehow, and we divide them according to categories of space and time.

But we must remember that these divisions exist only in us, in our perception of things, and not in the things themselves. We must not forget that we neither know the true interrelation of things nor do we know real things. All we know is their phantoms, their shadows, and we do not know what relationship actually exists between them. At the same time we know quite definitely that *our* division of things according to time and space in no way corresponds to the division of *things in themselves* taken independently of our perception of them;

and we also know quite definitely that if some sort of division does exist between *things in themselves*, it can in no case be a division in terms of time and space, as we usually understand these terms, because such a division is not a property of the things but only of our perception of things acquired through the sense-organs. Moreover,

we do not know if it is even possible to distinguish *those divisions which we see*, i.e. divisions according to space and time, when things are looked at, not from the human point of view, not through human eyes. In other words, we do not know whether, for a differently constituted organism, our world would not present an entirely different picture.

We cannot *picture* things outside the categories of space and time, but we constantly *think* of them outside of time and space.

When we say 'this table', we picture the table to ourselves in time and space. But when we say 'an object made of wood', without meaning any definite object, but speaking generally, it refers to all objects made of wood, throughout the world and at all ages. An imaginative person might take it that we speak of some *great object* made of wood, composed of all wooden things that have ever existed anywhere and which represent, as it were, *its atoms*.

Although we do not give a very clear account of this to ourselves, generally, we think in time and space only by representations; but when we think in concepts, we already think outside of time and space.

Kant called his view *critical idealism*, to distinguish it from *dogmatic idealism*, as presented by Berkeley.

According to dogmatic idealism, the whole world - all things, i.e. the true causes of sensations, have no existence except in our knowledge - they *exist* only in as far as we know them. The whole world as we represent it is only a reflection of ourselves.

Kant's idealism recognizes the existence of a world of causes outside of us, but asserts that we cannot perceive this world through sense-perception, and that, in general, everything we see is our own creation, the 'product of the perceiving subject'.

Thus, according to Kant, everything we find in objects is put into them by ourselves. We do not know what the world is like independently of ourselves. Moreover, our conception of things has nothing in common with the things as they are in themselves, apart from us. And, most important of all, our ignorance of things in themselves is due not to our *insufficient knowledge*, but to the fact that we are *totally* unable to have a *correct* knowledge of the world by means of sense-perception. To put it differently, it is incorrect to say that, as yet, we know but little, but later we shall know more and, in the end, shall arrive at a right understanding of the world; it is incorrect because our experimental knowledge is not a *hazy* representation of the *real world*; it is a *very vivid* representation of an *entirely*

unreal world, arising around us at the moment of our contact with the world of true causes, which we cannot reach because we have lost our way in the unreal 'material'* world. Thus, the expansion of objective knowledge brings us no nearer to the cognition of *things in themselves* or of the *true causes*.

In *A Critique of Pure Reason* Kant says:

Nothing which is intuited in space is a thing in itself, and space is not a form which belongs as a property to things; but objects are quite unknown to us in themselves, and what we call outward objects are nothing else but mere representations of our sensibility, whose form is space, but whose real correlate, the thing in itself, is not known by means of these representations, nor ever can be, but respecting which, in experience, no inquiry is ever made. . . .

The things which we intuit are not in themselves the same as our representations of them in intuition, nor are their relations in themselves so constituted as they appear to us; and if we take away the subject, or even only the subjective constitution of our senses in general, then not only the nature and relations of objects in space and time, but even space and time themselves disappear. . . .

What may be the nature of objects considered as things in themselves and without reference to the receptivity of our sensibility is quite unknown to us. We know nothing more than our *mode of* perceiving them. . . . Supposing that we should carry our empirical intuition [sensory perception] even to the very highest degree of clearness, we should not thereby advance one step nearer to the knowledge of the constitution of objects as things in themselves. . . .

To say, then, that all our sensibility is nothing but the confused representation of things containing exclusively that which belongs to them as things in themselves, and this under an accumulation of characteristic marks and partial representations which we cannot distinguish in consciousness, is a falsification of the conception of sensibility and phenomenization, which renders our whole doctrine thereof empty and useless.

The difference between a confused and a clear representation is merely logical and has nothing to do with content.*

Kant's propositions still remain in practically the same form in which he left them. In spite of the profusion of new philosophical systems which appeared in the course of the nineteenth century, and notwithstanding the great number of philosophers who specially concerned themselves with commenting on and interpreting Kant's writings, his main propositions have remained entirely undeveloped, mainly because most people do not know how to read Kant and they

* Immanuel Kant, *A Critique of Pure Reason*, trans. J. M. D. Meiklejohn, London, George Bell & Sons, 1878, pp. 28, 35, 36.

concentrate on the unimportant and non-essential, missing the important and the essential.

Yet, in actual fact, Kant has merely put forward a question, thrown to the world a problem which has to be solved, without indicating the way to the solution.

This fact is usually overlooked when people speak of Kant. Kant put forward the riddle, but gave no solution of it.

And to this day we repeat Kant's propositions, regarding them as incontrovertible but actually, we have only a very vague idea of what they mean. Nor are they connected with other spheres of our knowledge. *The whole of our positive science - physics, chemistry and biology - is based on hypotheses contradictory to Kant's propositions.*

We do not know in what manner we ourselves impose upon the world the properties of space, i.e. extension; and we do not know in what manner the world - earth, sea, trees, people - could *not possess* this extension.

We do not know how we can see and *measure* this extension *if it does not exist*, or what the world can be like if it has no extension.

Does the world really exist? Or, as a logical deduction from Kant's ideas, should we accept Berkeley's idea and deny the very existence of the world except in our imagination?

Positivist philosophy adopts a very strange attitude to Kant's views. It both accepts and does not accept them. To be more exact, it accepts them as correct in relation to the direct experience of the sense-organs, in relation to what we see, hear, touch. That is, positivist philosophy recognizes the subjective character of our perception and admits that everything we perceive in objects is imposed on them by ourselves. But this is only in relation to the direct experience of sense-organs.

As regards 'scientific experience', where precise instruments and calculations are used, positivist philosophy appears to consider Kant's view erroneous and assumes that 'scientific experience' acquaints us with the very substance of things, with the true causes of our sensations, or if it does not yet do so, it brings us closer to this acquaintance and may succeed in doing so later.

Contrary to Kant, the 'positivists' are convinced that 'a more clear knowledge of phenomena acquaints them with things in themselves'. They suppose that, by regarding physical phenomena as movements of ether, or of electrons, or as electrical or magnetic influences, and by calculating these movements, they become acquainted with the very essence of things, i.e. with the causes of all phenomena. They *believe*

in the very thing the possibility of which Kant denied, namely in the comprehension of the true essence of things through the study of phenomena. Moreover, many physicists do not even consider it necessary to know Kant, and they would be unable to define exactly in what relation they stand in regard to him. Yet, one may not know Kant but one cannot ignore him. Every description of a physical phenomenon, by its every word, refers in one or another way to the problem raised by Kant and stands in one or another relationship to it.

Generally speaking, the position of 'science' as regards the question of the limits of the *subjectively imposed* or the *objectively perceived* is more than precarious, and in order to draw its conclusions 'science' is forced to accept a great many purely hypothetical propositions as known and unquestionable *data*, requiring no proof.

In addition, physicists overlook one very interesting consideration advanced by Mach in his book *Contributions to the Analysis of the Sensations*:

In the investigation of purely physical processes we generally employ concepts of so abstract a character that as a rule we think only cursorily, or not at all, of the sensations that lie at their base. ... [At the basis of all purely physical definitions lies] an almost unending series of simple sensory observations (sensations), particularly if we take into consideration the observations that assure the adjustment of the apparatus, which may have been performed in part long before the actual experiment. Now it can easily happen to the *physicist* who does not study the psychology of his operations, that he does not (to reverse a well known saying) see the trees for the wood, that he slurs over the sensory elements at the foundation of his work. . . . Psychological analysis has taught us that this is not surprising, since the physicist deals with sensations in *all* his work.*

Here Mach draws attention to a very important side of cognition. Physicists do not consider it necessary to know psychology or to take it into account in their conclusions.

But when they are more or less acquainted with psychology, with that part of it which deals with the forms of perception, and when they take it into account, there results in them a most fantastic cleavage of opinions as in a man of orthodox beliefs trying to reconcile the dogma of faith with the arguments of reason.

Or, it may even be worse. Deep down a physicist may feel the real worthlessness of all these new and old scientific theories, but he is afraid to be left hanging in mid-air with nothing but a negation. He has no system to take the place of the one whose falsity he already

* Dr Ernst Mach, *Contributions to the Analysis of the Sensations*, trans. C. M. Williams, Open Court Publishing Co., Chicago, 1897, pp. 191, 192, 193.

feels; he is afraid to make a leap into the void. And, lacking the courage to admit openly that *he no longer believes in anything* he continues to wear all these contradictory theories, like some official uniform, for the sole reason that this uniform is connected with rights and privileges, both inner and outer, consisting of a certain assurance in himself and the surrounding world which he has neither the strength nor the courage to renounce. An 'unbelieving positivist' is the tragic figure of modern times, similar to the 'atheist' or the 'unbelieving priest' of the times of Voltaire.

The same fear of a vacuum gives rise to all the dualistic theories which accept 'spirit' and 'matter' as different principles, co-existing but independent of one another.

On the whole, the present state of our 'science' would be of great psychological interest to an unbiased observer. In all the domains of scientific knowledge there is a great accumulation of facts disrupting the harmony of the accepted systems. And these systems are able to exist only through the heroic efforts of scientists who strive to shut their eyes to the long series of new facts which threaten to engulf everything in an irresistible flood. Yet if these facts, destructive to the systems, were collected together, their number in every domain would be likely to prove greater than the number of facts on which the systems are founded. The systematization of *that which we do not know* may provide more for correct knowledge of the world and ourselves than the systematization of what, in the opinion of 'exact science', we do know.

CHAPTER 2

A new view of Kant's problem. Hinton's books. 'Space-sense' and its evolution. A system for developing the sense of the fourth dimension by means of exercises with different coloured cubes. The geometrical concept of space. Three perpendiculars. Why are there only three? Can everything existing be measured by three perpendiculars? Physical and metaphysical facts. Signs of existence. The reality of ideas. The insufficient evidence of the existence of matter and motion. Matter and motion are only logical concepts, like 'good' and 'evil'.

I have already said that Kant put forward a problem, but he offered no solution to it nor did he indicate any way to its solution. Neither have any of the known commentators, interpreters, followers or opponents of Kant found this solution or the way to it.

I find the first glimmer of a right understanding of Kant's problem, and the first hints as to a possible way to its solution, in the attempts at a new approach to the study of this problem of space and time, connected with the idea of the 'fourth dimension' and the idea of higher dimensions in general. The books of the English writer, C. H. Hinton, *A New Era of Thought* and *The Fourth Dimension*, contain an interesting survey of much that has been done in this direction.*

Hinton says, among other things, that commentaries on Kant's ideas usually deal only with their *negative side*, that is to say, the fact that we can perceive things through the senses, only in time and space, is regarded as *an obstacle*, preventing us from seeing what things in themselves are actually like, not allowing us to know them as they really are, imposing on them something that does not belong to them, something that shuts them off from us.

But [says Hinton], if we take Kant's statement simply as it is [- not seeing in spatial perception a *hindrance* to right perception - and say to ourselves that *we apprehend by means of space*, then it is equally allowable to consider our space-sense] not as a negative condition *hindering* us from apprehending the world, but as a positive means *by which* the mind grasps its experience [i.e. by means of which we apprehend the world].

* Hinton has two separate books *The Fourth Dimension* and *A New Era of Thought*; there are also three books of popular articles and fiction, *Scientific Romances*, where he expounds the same ideas.

There is in so many books in which the subject is treated a certain air of despondency - as if this space apprehension were a kind of veil which shut us off from nature. But there is no need to adopt this feeling. . . . [We must recognize] the fact that it is by means of space that we apprehend what is.

Space is the instrument of the mind.

Very often a statement which seems to be very deep and abstruse and hard to grasp, is simply the form into which deep thinkers have thrown a very simple and practical observation. And for the present, let us look on Kant's great doctrine of space from a practical point of view, and it comes to this - it is important to develop the space sense, for it is the means by which we think about real things.

Now according to Kant [continues Hinton], the space sense or the intuition of space, is the most fundamental power of the mind. But I do not find anywhere a systematic and thoroughgoing education of the space sense. . . . It is left to be organized by accident. . . . [And yet a special development of space-sense makes perfectly clear and simple] a whole series of new conceptions. . . .

Fichte, Schelling, Hegel have developed certain tendencies of Kant and have written remarkable books. But the true successors of Kant are Gauss and Lobatchewski.

For if our intuition of space is the means by which we apprehend, then it follows that there may be different kinds of intuitions of space. . . . This intuition of space must be coloured, so to speak, by the conditions (of the mental activity) of the being which uses it. . . .

By a remarkable analysis the great geometers above mentioned have shown that space is not limited as ordinary experience would seem to inform us, but that we are quite capable of conceiving different kinds of space.*

Hinton devised a complicated system for educating and developing space-sense by means of exercises with a series of different coloured cubes. The books already mentioned are devoted to the exposition of this system. In my opinion Hinton's exercises are interesting from the point of view of theory, but can have a practical significance only in those cases where people have the same mental make-up as Hinton.

According to Hinton, his system of mental exercises should, first of all, lead to the development of the ability to *visualize* things, not as the eye sees them, i.e. not in perspective, but as they are geometrically; for example, they should teach one to visualize the cube from all sides at once. If one acquires this ability of visualization, not in perspective, it should, in its turn, greatly widen the bounds of the activity of our consciousness, thereby creating *new concepts* and intensifying our capacity *for drawing analogies*.

* C. H. Hinton, *A New Era of Thought*, London, George Alien & Unwin, 1910.

Kant established the fact that an expansion of knowledge under the existing conditions of perception will not bring us any nearer to things in themselves. But there are theories asserting that, if desired, it is possible to change the very conditions of perception and in this way approach to the real essence of things. In the above-mentioned books Hinton attempts to unite together the scientific grounds of such theories.

Our space as we ordinarily think of it is conceived as limited - not in extent, but in a certain way which can only be realized when we think of our ways of measuring space objects. It is found that there are only three independent directions in which a body can be measured - it must have height, length and breadth, but it has no more than these dimensions. If any other measurement be taken in it, this new measurement will be found to be compounded of the old measurements.

It is impossible to find a point in the body which could not be arrived at by travelling in combinations of the three directions already taken.

But why should space be limited to three independent directions?

Geometers have found that there is no reason why bodies should be thus limited. As a matter of fact all the bodies which we can measure are thus limited. So we come to this conclusion, that the space which we use for conceiving ordinary objects in the world is limited to three dimensions. *But it might be possible for there to be beings living in a world such that they would conceive a space of four dimensions. . .*

It is possible to say a great deal about space of higher dimensions than our own, and to work out analytically many problems which suggest themselves. But can we conceive four-dimensional space in the same way in which we can conceive our own space? Can we think of a body in four dimensions as a unit having properties in the same way as we think of a body having a definite shape in the space with which we are familiar?

There is really no more difficulty in conceiving four-dimensional shapes, when we go about it in the right way, than in conceiving the idea of solid shapes, nor is there any mystery at all about it.

When the faculty [of apprehending in four dimensions] is acquired - or rather when it is brought into consciousness, for it exists in everyone in imperfect form - a new horizon opens. The mind acquires a development of power, and in this use of ampler space as a mode of thought, a path is opened by using that very truth which, when first stated by Kant, seemed to close the mind within such fast limits. Our perception is subject to the conditions of being in space. But space is not limited as we at first think.

The next step after having formed this power of conception in ampler space, is to investigate nature and see what phenomena are to be explained by four-dimensional relations. . . .

The thought of the past ages has used the conception of a three-dimensional space, and by that means has classified many phenomena and has obtained rules for dealing with matters of great practical utility. The path which opens immediately before us in the future is that of applying the conception of four-dimensional space to the phenomena of nature, and of investigating what can be found out by this new means of apprehension.

To expand our apprehension it is important to separate as far as possible the *self-elements*, i.e. the personal elements introduced by us into everything we apprehend, from *that which is being apprehended*, so that our attention may not be distracted (onto ourselves) from the properties of what we actually perceive.

Only 'by getting rid of the *self-elements*' in our perception do 'we put ourselves in a position in which we can propound sensible questions'. Only 'by getting rid of the notion of its circular motion round the earth [i.e. round *us* - a self-element] do we prepare our way to study the sun.'

The worst about a *self-element* [in perception] is, that its presence is never dreamed of till it is got rid of. ...

[In order to understand what the *self-element* in our perception means, let us] imagine ourselves to be translated suddenly to another part of the universe, and to find there intelligent beings, and to hold conversation with them. If we told them that we came from a world, and were to describe the sun to them, saying that it was a bright, hot body which moved round us, they would reply: *You have told us something about the sun, but you have also told us something about yourselves.*

Therefore, if we wish to know something about the sun we must first of all get rid of the *self-element* introduced into our apprehension of the sun by the motion round it of the earth, on which we are.

'One of our serious pieces of work' in the education and development of space-sense 'will be to get rid of the self-elements in the *knowledge of arrangement [of objects]*'.

What the relation of our universe, or our space, to the four-dimensional space may be, is altogether undetermined.

The real relationship will require a great deal of study to apprehend, and when apprehended *will seem as natural to us as the position of the earth among the other planets does to us now.*

I would divide studies of... [arrangement] into two classes: those which create the faculty of arrangement, and those which use it and exercise it. Mathematics exercises it, but I do not think it creates it; and unfortunately, in mathematics as it is now often taught, the pupil is at once launched into a vast system of symbols [without being given the possibility of grasping their meaning and significance].

Of the possible units which will serve [for the study of arrangement], I take the cube; and I have found that whenever I took any other unit I got wrong, puzzled and lost my way. With the cube one does not get along very fast, but everything is perfectly obvious and simple, and builds up into a whole of which every part is evident. . . .

Our work will then be this: a study, by means of cubes, of the facts of arrangement. And the process of learning will be an active one of actually

putting up the cubes. In this way ... we bring . . . [the mind] into contact with nature.*

Now, taking into consideration all that has been said, let us try to establish exactly how we understand those aspects of our perception of which Kant speaks.

What is space?

Taken as an object, i.e. visualized as outside our consciousness, space is for us the *form of the universe* or the form of matter in the universe.

Space possesses infinite extension in all directions. But, at the same time, we can measure it in three independent directions only: length, breadth and height. We call these directions dimensions of space and say that our space possesses three dimensions, that it is three-dimensional.

By an *independent direction* we mean, in this case, a line lying at right angles to another line.

Our geometry (i.e. the science of measuring *the earth*, or matter in space) knows *only three* such lines which lie simultaneously at right angles to one another and are not parallel in relation to each other.

Why are there only three and not ten or fifteen?

This we do not know.

Moreover, one other fact is significant - either by virtue of some mysterious quality of the universe, or because of the limitations of our mental apparatus, we cannot *visualize* more than three perpendiculars.

But we say that space is infinite. Therefore, since the first condition of infinity is infinity *in all directions* and in all possible respects, we must assume that space has an infinite number of dimensions, that is, assume the possibility of an infinite number of lines perpendicular and not parallel to one another. And in addition we have to assume that *for some reason* we know only three of these lines.

This is the aspect in which the question of higher dimensions presents itself to our ordinary consciousness.

All the same, since we are incapable of constructing more than three perpendiculars, we are forced to admit that, even if the *three-dimensionality* of our space is merely conditional, the *limitedness* of our space as regards geometrical possibilities is an unquestionable fact. But of course, if these properties of space are created by certain attributes of our own, then it follows that the limitation is also in ourselves.

* C. H. Hinton, *A New Era of Thought*, London, George Alien & Unwin, 1910.

No matter what this limitation depends on, the fact is that it exists.

A given point can be the vertex of only eight independent tetrahedrons. From a given point only three perpendicular and non-parallel lines can be traced.

Starting from this, we determine the *dimensionality* of space by the number of lines it is possible to trace in it which would lie at right angles to one another.

On a line there cannot be a perpendicular, that is, *another line*. It is one-dimensional space.

On a surface, two perpendiculars are possible. It is two-dimensional space.

In 'space', there are three perpendiculars. It is three-dimensional space.

The idea of *the fourth dimension* arose from the assumption that, in addition to the three dimensions known to our geometry, there exists a fourth, for some reason inaccessible and unknown to us, i.e. that in addition to the three perpendiculars known to us a mysterious fourth perpendicular is possible. In practice this assumption is based on the consideration that the world contains many things and phenomena about whose *real existence* there can be no doubt, but which are utterly beyond being measured in length, breadth and height and lie, as it were, outside three-dimensional space.

We may take as *really existing* that which produces a certain action, has certain functions, represents the cause of something else.

That which *does not exist* cannot produce any action, has no function, cannot be a cause.

But there are different kinds of existence. There is the *physical* existence, recognized by actions and functions of a certain kind; and there is the *metaphysical* existence, recognized by its actions and its functions.

A house exists, and the *idea of good and evil* exists. But they do not exist in the same way. One and the same method of proving existence cannot serve to prove the existence of a house and the existence of an idea. A house is a *physical fact*, an idea is a *metaphysical fact*. Both the physical and the metaphysical facts *exist*, but they exist differently.

In order to prove the idea of the division of good and evil - i.e. a metaphysical fact - I must prove *its possibility*. This will be sufficient. But if I prove that a house, i.e. a physical fact, *can* exist, it does not at all mean that it actually does exist. To prove that a man *can* own a house is no proof that he actually owns it.

Moreover, our relation to an idea and to a house is quite different. By means of a certain effort a house can be destroyed - it can be burned or demolished. The house will cease to exist. But try to destroy an idea by effort. The more you fight against it, the more you argue, refute, ridicule it, the more the idea will grow, spread and gain strength. On the other hand, silence, oblivion, *non-doing*, 'non-resistance' will annihilate, or at any rate weaken the idea. But silence, oblivion, will not harm a house or a stone. It is clear that the existence of a house and the existence of an idea are different existences.

We know a great many of such *different existences*. A *book* exists and the *contents* of a book exist. *Notes* exist, and the *music they contain* exists. A *coin* exists and the *purchasing value* of a coin exists. A *word* exists and the *energy* contained in it exists.

On the one hand we see a series of *physical facts*, on the other, a series of *metaphysical facts*.

There are facts of the first kind and facts of the second kind; they both exist, but they exist differently.

From the ordinary positivist view it will appear very naive to speak of the *purchasing value* of a coin separately from the coin; of the *energy of a word* separately from the word; of the *contents of a book* separately from the book, and so on. We all know that this is only 'a manner of speech', that actually the *purchasing value*, the *energy of a word*, the *contents of a book*, have no existence; they are only concepts by means of which we designate a series of phenomena in some way connected with the coin, the word, the book, but really quite separate from them.

But is it so?

We decided not to accept anything as data and therefore we must not *reject anything* as data.

We see in things not only an outer aspect but an inner content. We know that this inner content constitutes an inalienable part of things, usually their *main essence*. And quite naturally we ask ourselves *where* it is and *what* it represents. We see that this inner content is not in our space. So we conceive the idea of a 'higher space', possessing more dimensions than ours. Our space then becomes a part of a higher space, as it were, i.e. we begin to suppose that we know, sense and measure only a part of space, that part which is measurable in length, breadth and height.

It was said earlier that, as a rule, we regard space as the form of the universe or the form of matter in the universe. To make this more clear - it can be said that a 'cube' is the form of matter in a cube; a

'sphere' is the form of matter in a sphere; 'space' - an infinite sphere - is the form of all the matter contained in the universe. In *The Secret Doctrine*, H. P. Blavatsky says this about space:

The superficial absurdity of assuming that space itself is measurable in any direction is of little consequence. The familiar phrase [the fourth dimension of space] can only be an abbreviation of the fuller form - the 'fourth dimension of matter, in space'. . . . The progress of evolution may be destined to introduce us to new characteristics of matter.*

But the formula denning 'space' as the 'form of matter in the universe' suffers from one defect, namely, it introduces the concept of 'matter', i.e. an *unknown*.

I have already spoken of the blind alley, $x = y$, $y = x$, to which all attempts at a physical definition of matter lead. Psychological definitions lead to the same.

In his well-known book. *The Physiology of the Soul*, A. I. Herten says:

We call matter everything that, directly or indirectly, offers resistance to motion directly or indirectly produced by us, manifesting in this a remarkable analogy with our *passive* states.

And we call force (motion) that which, directly or indirectly, communicates movement to us or to other bodies, manifesting in this the greatest resemblance to our *active* states.

Consequently, 'matter' and 'motion' are, as it were, projections of our active and passive stages. It is clear that the passive state can only be defined by means of the active, and the active by means of the passive. The result is once more two unknowns defining one another.

E. Douglas Fawcett puts it very well when he speaks of matter in his article 'Idealism and the Problem of Nature' in *The Quest* (April 1910):

Matter (like 'Force') does not present any difficulty at all. We know all about it, for the very good reason that *we have invented it*. . . . 'Matter' is a creation of our conceiving; a mere way of thinking about sensible objects;

a mental substitute for concrete but unmanageably complex facts. . . .

Strictly speaking. Matter exists only as a concept. . . . Truth to tell, the character of Matter, even when treated only as a conception, is so un-obvious, that the majority of persons are unable to tell exactly what they mean by it.

* H. P. Blavatsky, *The Secret Doctrine*, London and New York, Theosophical Publishing Society, 3rd edn, 1893, vol. 1, p. 271.

One important point is brought out here: *matter and force* are only *logical concepts*, i.e. only *terms* adopted to designate a long series of diverse facts. It is difficult for us, brought up on 'physics', to understand this. But in reality - who has ever seen *matter or force*? We see things, we see phenomena. *Matter* separately from the substance of which a given thing is made or consists we have never seen and never shall see. And, a *given substance* is not *matter*, it is *wood*, or *iron*, or *stone*. In the same way, we shall never see *force* separately from *action*. What does this mean? It means that *matter* and *force* are concepts just as abstract as 'value' or 'labour', as the 'purchasing value' of a coin, as the 'contents' of a book. It means that *matter* is 'such stuff as dreams are made on'. And, just as we can never touch this 'stuff', and see it only in dreams, so we can never touch, see, hear or photograph *physical matter separately from things*. Perfectly or imperfectly, we know things and phenomena, but we shall never know *matter* and *force* apart from *things* and *phenomena*.

Matter is as much an abstract concept as truth, good or evil.

Matter, or any part of matter, cannot be put into a chemical retort or a crucible, just as 'Egyptian Darkness' cannot be sold in small bottles. But they say that 'Egyptian Darkness' in the form of black powder is sold on Mount Athos or elsewhere, so perhaps someone has also seen matter after all.

In order to find the right approach to these questions it is necessary to have a certain preparation or a great inner flair. Unfortunately people embark with too great an ease on discussions about fundamental questions of the structure of the world.

A man readily admits his incompetence in music or in higher mathematics, or in the art of ballet dancing, but he always reserves the right to *have an opinion* and voice a judgment on questions referring to 'fundamental principles'.

To talk with such people is very difficult.

For, how will you answer a man who looks at you in perplexity, taps his finger on the table and says, 'This is matter, I *know*, I *feel* it. How can *this* be an abstract concept?' It is just as difficult to answer him as it is difficult to answer the man who says: 'But I *see for myself* that the sun rises and sets!'

To return to the question of space, we must at all events not introduce unknown quantities into its definition. We must define it with the help of the two *data* we already decided to accept at the very beginning. The *world* and our *inner life* are the two facts we decided to recognize as existing.

By the world we mean the combination of the causes of all our sensations in general.

By the material world we mean the combination of the causes of a *definite series of sensations*, those of sight, hearing, touch, smell, taste, sensations of weight, of mass, and so on.

Space is either a property of the world or a property of our cognition of the world.

Three-dimensional space is either a property of the *material world* or a property of *our* perception of the material world.

So the question is this: how must we approach the study of space?

CHAPTER 3

What can we learn about the fourth dimension by studying geometrical relationships within our space? What should be the relationship of a three-dimensional body to a four-dimensional one? A four-dimensional body as the trace of the movement of a three-dimensional body in a direction not contained in it. A four-dimensional body as composed of an infinite number of three-dimensional bodies. A three-dimensional body as a section of a four-dimensional one. Parts of bodies and whole bodies in three and in four dimensions. Incommensurability of a three-dimensional and a four-dimensional body. A material atom as a section of a four-dimensional line.

If we examine the profound difference that exists between a point and a line, between a line and a surface, between a surface and a solid, i.e. the difference between the laws which govern a point and a line, a line and a surface and so on, and the difference of phenomena which are possible in a point, a line, a surface, we shall realize how many things, new and incomprehensible for us, lie in the fourth dimension.

As within a point it is impossible to visualize a line and the laws of the line, as within a line it is impossible to visualize a surface and the laws of a surface, as within a surface it is impossible to visualize a solid and understand the laws of a solid, so within our space it is impossible to visualize a body possessing more than three dimensions and impossible to understand the laws of the existence of such a body.

But, by studying the mutual relations between a point, a line, a surface and a solid we begin to learn something about the fourth dimension, i.e. about four-dimensional space. We begin to learn *what it can be* as compared with our three-dimensional space, and *what it cannot be*.

This last we learn first of all. And it is especially important, because it frees us from a great many deep-rooted illusions, which are very harmful for right knowledge.

We learn *what cannot be* in four-dimensional space, and this enables us to establish *what can be there*.

In his book, *The Fourth Dimension*, Hinton makes an interesting remark in connection with the method which helps us to approach the question of higher dimensions. He says:

Space itself bears within it relations of which we can determine it as related to other [higher] space.

For within space are given the conceptions of point and line, line and plane, plane and solid, which really involve the relation of space to a higher space.*

Let us try to examine these relations within our space and see what conclusions may be drawn from a study of them.

We know that our geometry regards a line as the trace of the movement of a point; a surface, as the trace of the movement of a line; and a solid as the trace of the movement of a surface. On this basis we may ask ourselves the question: is it not possible to regard a 'four-dimensional body' as the trace of the movement of a three-dimensional body?

What then is this movement and in what direction?

A *point*, moving in space and leaving the trace of its motion in the form of a line, moves in a direction not contained in itself, for in a point there is no direction.

A *line*, moving in space and leaving the trace of its motion in the form of a surface, moves in a direction not contained in itself, because should it move in a direction contained in itself, it would always remain a line.

A *surface*, moving in space and leaving the trace of its motion in the form of a solid, also moves in a direction not contained in itself. If it should move in one of the directions contained in itself, it would always remain a surface. In order to leave a trace of its motion in the form of a 'solid' or a three-dimensional figure, it must *move away from itself*, move in a direction which does not exist within it.

By analogy with all this, a solid, in order to leave the trace of its motion in the form of a four-dimensional figure, must also move in a direction not contained in itself; in other words, a solid must get out of itself, *away from itself*. Later, it will be established how we should understand this.

In the meantime we may say that the direction of motion in the fourth dimension lies *outside all those directions which are possible in a three-dimensional figure*.

We regard a line as an infinite number of points; a surface as an infinite number of lines; a solid as an infinite number of surfaces.

By analogy with this it is possible to assume that a four-dimensional body should be regarded as an infinite number of three-dimensional bodies, and four-dimensional space as an infinite number of three-dimensional spaces.

* C. H. Hinton, *The Fourth Dimension*, London, 1912, reprinted Arno Press, New York, 1976, p. 3.

Further, we know that a line is limited by points, a surface is limited by lines, a solid is limited by surfaces.

It is possible, therefore, that four-dimensional space is limited by *three-dimensional bodies*.

We may say that a line is the distance between points; a surface, the distance between lines; a solid, the distance between surfaces.

Or we can put it this way: a line separates two or several points from one another (a straight line is the shortest distance between two points); a surface separates two or more lines from one another; a solid separates several surfaces from one another. Thus, a cube separates six flat surfaces, which we call its sides, from one another.

A line binds several points into a certain whole (a straight, a curved, an irregular line); a surface binds several lines into a certain whole (a square, a triangle); a solid binds several surfaces into a certain whole (a cube, a pyramid).

It is more than possible that four-dimensional space is the distance between a number of solids, separating yet at the same time binding into some incomprehensible whole, those solids which to us appear to be separate from one another.

Moreover, we regard a point as a *section* of a line; a line as a section of a surface; a surface as a section of a solid.

By analogy with this it may be possible to regard a solid (a cube, a sphere, a pyramid) as a *section* of a four-dimensional body; and the whole of three-dimensional space as a section of four-dimensional space.

If every three-dimensional body is the section of a four-dimensional one, then every point of a three-dimensional body is the section of a four-dimensional line. An 'atom' of a physical body may be regarded, *not as something material*, but as the intersection of a four-dimensional line by the plane of our consciousness.

The view of a three-dimensional body as a section of a four-dimensional one leads us to the thought that many three-dimensional bodies, which appear separate for us, may be *sections or parts of* one four-dimensional body.

A simple example will illustrate this idea. If we imagine a horizontal plane, intersecting the top of a tree in a direction parallel to the earth, then *on this plane* the sections of the branches will appear separate and quite unconnected with one another. And yet in our space, from our point of view, these are sections of the branches *of one* tree, together forming one top, fed by one common root and casting one shadow.

Or again, another interesting example illustrating the same idea is

given by the theosophical writer, C. W. Leadbeater, in one of his books. If we touch the surface of a table with our five fingertips of one hand, there will be then on the surface of the table only five circles, and on *this surface* it is impossible to have any idea either of the hand or of the man to whom the hand belongs. There will be five *separate* circles on the table's surface. How, from these, is it possible to picture a man, with all the richness of his physical and psychological life? It is impossible. Our relation to the four-dimensional world may be exactly the same as the relationship between that consciousness which sees the five circles on the table and *the man*. We see only 'fingertips'; that is why the fourth dimension is incomprehensible for us.

In addition, we know that it is possible to draw an image of a three-dimensional body on a plane, that it is possible to draw a cube, a polyhedron, or a sphere. But it will not be a real cube or a real sphere, but only the projection of a cube or a sphere on a plane. So it may be that we are justified in thinking that the three-dimensional bodies we see in our space are *images*, so to speak, of four-dimensional bodies, incomprehensible for us.

CHAPTER 4

In what direction may the fourth dimension lie? What is motion? Two kinds of movement - movement in space and movement in time - contained in every motion. What is time? Present past and future. Wundt on sense-cognition. Groping through life. Why we do not see the past and the future. A new extension in space and motion in that space. Two ideas contained in the concept of time. Time as the fourth dimension of space. Impossibility of understanding the idea of the fourth dimension without the idea of motion. The idea of motion and 'time-sense'. 'Time-sense' as the limit (surface) of space sense. Riemann's idea of the translation of time into space in the fourth dimension. Hinton on the law of surfaces. 'Ether' as a surface.

From the analogy between the relation of lower dimensional figures to higher dimensional figures we have established the fact that a four-dimensional body may be regarded as the trace of the movement of a three-dimensional body in a direction not contained in it, i.e. that the direction of motion in the fourth dimension lies outside all the directions possible in a three-dimensional space.

What can this direction be?

In order to answer this question we must see whether we know of any movement in a direction not contained in three-dimensional space.

We know that every movement in space is accompanied by what we may call *movement in time*. We know, in addition, that even without moving in space, everything that exists moves eternally in time.

And, equally in all cases, whether we speak of motion or of absence of motion, we have in mind the idea of what was before, what is now, what will be after. In other words, we have in mind the idea of time. The idea of motion, whatever this motion may be, as well as the idea of absence of motion, is indissolubly linked with the idea of time. Any motion or absence of motion takes place in time and cannot take place outside of time. Consequently, before speaking about what motion is, we must answer the question: what is time?

Time is the greatest and the most difficult riddle which confronts mankind.

Kant regards time in the same way as he regards space, as a purely subjective form of our perception. He says that, conditioned as we are

by the properties of our perceiving apparatus, we *create time* as a convenience for perception of the outside world. Reality is continuous and constant. But in order to be able to perceive it, we must break it up into separate moments, i.e. represent it to ourselves as an endless series of separate moments, out of which one and one only exists for us. In other words, we perceive reality as though through a narrow slit. What we *see* through this slit, we call the present; what we saw but see no longer, we call the past; and what we do not see at all but expect to see, we call the future.

Examining each phenomenon as the *outcome* of another one, or several others, and this in its turn, as the cause of still another, or others, i.e. examining all phenomena in their mutual functional relationship, we, by this very fact, examine them in time because, quite clearly and distinctly, we first visualize the cause and then the effect - first the action, then its function - and we cannot think of it otherwise. So for us the idea of time is essentially connected with the idea of causation and functional interdependence. Causation cannot exist without time, just as motion or absence of motion cannot exist without time.

But our conception of our 'existence in time' is incredibly muddled and hazy.

First of all let us examine our relation to the past, the present and the future. Usually, we consider the past as *no longer* existing. It has gone - vanished - changed, has become transformed into something else. The future does not exist either. It is *not yet*. It has not yet come, it is not yet formed. By the present we mean the moment of transition from the future into the past, i.e. *the moment of the transition of a phenomenon from one non-existence into another*. Only during this brief moment does a phenomenon really exist for us; before, it exists as a potentiality, and after, it exists as a memory. But in actual fact this brief moment is a fiction. It has no dimension. On the contrary, we have every right to say that the present does not exist. We can never catch it. That which we manage to catch *is always already past!*

If we stop at that we shall be forced to admit that the world does not exist. The only thing that exists is some phantasmagoria of illusions, flashing up then vanishing.

As a rule we fail to realize this, and do not see that our usual view of time leads to utter absurdity.

Imagine a foolish traveller going from one town to another and finding himself half way between the two towns. The foolish traveller thinks that the town he left last week no longer exists *now*, that only the memory of it remains; the walls are demolished, the towers have

fallen, the inhabitants have died or run away. And the town where he is due to arrive in a few days' time does not exist *now* either, but is being hastily built for his coming and, on the day of his arrival, will be ready, peopled and in working order, but on the day following his departure will be destroyed just like the first.

This is exactly the way we think about things in time - everything passes, nothing returns! Spring is over, it exists *no longer*. Autumn has not yet come, it does not exist *as yet*.

What then does exist?

The present.

But *the present* is a moment impossible to capture, it is continuously melting into the past.

Thus, strictly speaking, the past, the future and the present do not exist for us. *Nothing exists!* Yet we live, feel, think - and something surrounds us. Consequently, there must be some fault in our customary attitude to time. We must try to find this fault.

At the very beginning we accepted the fact that *something* exists. We called this something the world. How can the world exist if it does not exist in the past, the present and the future?

As deduced from our ordinary viewpoint of time, we make the world appear like an incandescent streamer of fireworks perpetually shooting up, each spark of which flashes for a moment then is instantly extinguished, *never* to appear again. Flashes follow one another in close succession; the number of sparks is infinite and the whole produces the effect of flame, although in reality *it has no existence*.

Autumn has not yet come. It will be, but now it is not. And we never stop to think how that which *is not* can *appear*.

We move on a plane and accept as actually existing only the small circle illumined by our consciousness. Everything that lies beyond this circle and beyond our field of vision we reject, and deny its very existence. We move on the plane in one direction. This direction we consider eternal and infinite. But any direction *perpendicular* to it, any lines we may cross, we refuse to accept as eternal and infinite. We think that they vanish into non-existence as soon as we have crossed them, and that the lines in front of us have not yet emerged from non-existence. If we suppose that we move along a sphere, along its equator or one of its parallels, we shall find that we always accept *only one* meridian as really existing; those behind us have already disappeared, those in front have not yet come into being.

We go along like a blind man who, with his stick, feels the paving stones, the lamp-posts and the walls of the houses and *believes* in the

real existence of only those things he is touching *now*. What he has passed has vanished never to return! What he has *not yet* reached does not exist. The blind man remembers the road he has covered; he expects to find a road in front; but he does not see either forward or backward, *because he does not see anything*; and also because his instrument of cognition - his stick - has a certain, very small length, and *beyond this stick* non-existence begins for him.

In one of his books Wundt draws attention to the fact that our vaunted five sense-organs are merely *feelers* by means of which we touch the world around us. We live by 'feel' - by groping. *We never see anything*. We always grope for everything. With the help of the telescope, the telegraph, the telephone we perhaps lengthen our feelers, so to speak, but we do not begin to *see*. To say that we *see* would be possible only if we knew the past and the present. But we do not see and therefore can never convince ourselves of the existence of that which we cannot *feel*.

Here we have the reason why we regard as really existing only the circle which our feelers can grasp at a given moment. Beyond this circle there is only darkness and non-existence.

But have we the right to *think* in this way?

Imagine a consciousness not limited by the conditions of sense-perception. Such a consciousness can rise above the plane on which we move; it can see far beyond the bounds of the circle illumined by our ordinary consciousness; it can see that not only does the line along which we move *exist*, but also all other lines perpendicular to it which we now cross, or have ever crossed before, or shall cross later. Rising above the plane this consciousness will be able to *see* the plane, make sure that it actually is a plane and not only a line. Then it will be able to see the *past* and the *future* lying side by side and existing simultaneously.

Consciousness not limited by the conditions of sense-perception may outdistance the foolish traveller, climb a hill, and see from afar the town towards which he is going. It can convince itself that this town is not being newly built for his arrival but already exists by itself, quite independently of him. It will be able to look back and see on the horizon the towers of the town which the traveller left, and convince itself that the towers have not fallen down, that the town continues to stand and live as it stood and lived before the coming of the traveller.

Such a consciousness may rise above the plane of time and see the spring behind and the autumn in front, see simultaneously the unfolding flowers and the ripening fruit. It may cure the *blind man* of

his blindness and make him *see* the road he has covered and the road that lies before him.

The past and the future cannot be *non-existent*, for, if they do not exist, the present does not exist either. They must exist together *somewhere*, only we do not see them.

The present, as opposed to the past and the future, is the most unreal of all unrealities.

We must admit that the past, the present and the future do not differ from one another in any way, that the *only* thing that exists is *the present* - the *Eternal Now* of Indian philosophy. But we do not see it, because at every given moment we are only aware of a small fragment of this present; this fragment we regard as actually existing, and deny real existence to everything else.

Once we accept this, our view concerning everything that surrounds us must undergo a great change.

Usually we regard *time* as an abstraction made by us *when observing existent motion*; that is to say, we think that in observing motion or changes in the relations between things, and comparing the relations which existed before, which exist now and which may exist in the future, we evolve the idea of time. We shall see later how far this view is correct.

Moreover, our idea of time is composed of the concept of the past, the concept of the present and the concept of the future.

The concepts of the past and the present, although very vague, are uniform. But as regards *the future* there is a great variety of views.

It is essential for us to examine these *theories of the future* as they exist in the mind of modern man.

There are two main theories - that of a predestined future and that of a free future.

The theory of *predestination* is argued in the following way: it is asserted that every future event is the result of past events and is such as it is and no other, owing to a certain direction of the forces contained in the preceding events. In other words, this means that future events are entirely contained in the preceding ones, and if we were to know the force and direction of all the events which took place before the present moment, i.e. if we knew all the past, then, through this very fact we would know *all* the future. And it is true that if we have a thorough knowledge of the *present moment* in all its details, we may, at times, actually forecast the future. But if our forecast does not come true we say that we *did not know everything there was*, and we actually see in the past some *cause* which had escaped our observation.

The idea of a *free future* is based on the possibility of deliberate

actions and *accidental* new combinations of causes. The future is considered either as completely undetermined or only partially determined, because at each moment new forces, new events, new phenomena may arise, which have hitherto lain dormant. These new factors, although not causeless in themselves, are so utterly incommensurable with their causes - for instance a city set ablaze from a single spark - that it is impossible to allow for them or correlate them.

This theory asserts that one and the same action may produce different results; one and the same cause may give rise to different effects. In addition, it puts forward the hypothesis that quite deliberate volitional actions on the part of a man may bring about a complete change in the subsequent events of his own and other people's lives.

Supporters of the predestination theory contend that volitional, deliberate actions also depend on certain causes which make them necessary and unavoidable at a given moment; they contend that there is and can be nothing 'accidental'; that the things we call accidental are only those happenings of which we do not see the causes because of our limitations; and that the different effects resulting from causes which appear to us to be the same occur because the causes themselves are really different and only appear to be the same owing to the fact that we do not know them sufficiently well and do not see them sufficiently clearly.

The dispute between the theory of a predestined future and the theory of a free future is an endless dispute. Neither the one side nor the other can put forward anything decisive. And this is so because both theories are too literal, too rigid, too material, and the one excludes the other. Both of them say: 'Either this or that.' The result on the one hand is complete cold predestination: *come what may, nothing can be changed* - what will be tomorrow has been predestined tens of thousands of years ago; and on the other hand, some sort of life on the point of a needle named *the present*, surrounded on all sides by the gulf of non-existence - *a journey into a country that does not yet exist*, a life in a world which is born and dies every moment, in which *nothing ever* returns. These *opposite* views are both equally wrong, because here, as in many other cases, the truth lies in a unification of these two opposite understandings into one whole.

At every given moment all the future of the world is predestined and existing, but it is predestined conditionally, i.e. there must be one or another future in accordance with the direction of events of the given moment, if no *new factor* comes in. And a new factor can only

come in from the side of *consciousness* and the will resulting from it. It is important to understand and assimilate this.

In addition, our lack of understanding of the relation between the present and the past hinders us from having a right understanding of the relation of the present to the future. Differences of opinion arise only concerning the *future*; as regards the past everyone is in agreement that it has passed, that it no longer exists - *and that it was such as it was*. In this past lies the key to the understanding of the errors in our view of the future. The fact is that, in reality, our relation to the past and the future is much more complex than it appears. In the past, in what is behind us, lies not only what was, but also *what could have been*. In the same way, in the future lies not only what will be *but also all that may be*.

The past and the future are equally undetermined; the past and the future equally exist in all their possibilities, and equally exist simultaneously with the present.

By time we mean the *distance* separating events in the order of their sequence and binding them into different wholes. This distance lies in a direction not contained in *three-dimensional* space. If we think of this direction as lying in space, it will be a *new extension of space*.

This new extension fulfils all the requirements we may demand of the fourth dimension on the basis of the preceding arguments.

It is as incommensurable with the *measurements of three-dimensional space*, as a *year* is incommensurable with *St Petersburg*. It is perpendicular to all the three directions of three-dimensional space and is not parallel to any of them.

As a deduction from everything that has gone before we may say that *time* (as it is usually taken) contains *two ideas*: the idea of a certain space unknown to us (the fourth dimension), and the idea of movement in this space. Our constant mistake lies in the fact that we never see *two ideas* in time, but always see only one. As a rule we see in *time* the idea of motion, but cannot tell from whence, whither, where and in which space. Attempts have been made before to link the idea of the fourth dimension with the idea of time. But in all the theories which attempted to link the idea of time with the fourth dimension there was always the implication of some kind of *space in time* and of some sort of *motion in that space*. It is evident that those who built these theories did not understand that, by retaining the possibility of motion, they put forward demands for a *new time*, for no motion can take place without time. As a result *time* moves in front of us, like our own shadow, receding as we approach it. All our ideas of motion have become hopelessly confused because, if we imagine a new extension of space and the *possibility of*

movement along this new extension, then immediately time confronts us once more declaring itself just as unexplained as before.

We have to admit that by the one term, time, we actually designate two ideas - the idea of a 'certain space' and the idea of 'movement in that space'. But in actual fact this movement does not exist; it only appears to exist because we *do not see* the space of time. This means that the sensation of motion in time (and there is no motion that is not in time) arises in us because we look at the world through a narrow slit, as it were, and only see the *lines of intersection* of the plane of time with our three-dimensional space.

Thus we must acknowledge the profound incorrectness of the usual theory that the idea of time is evolved by us from our observation of motion and is nothing other than the idea of sequence which we observe in motion.

We have to accept the exact opposite: that the idea of motion is evolved by us from the sensation of time or the time-sense, i.e. from the sensation or sense of the fourth dimension of space, but out of an *incomplete sensation*. This incomplete sensation of time (of the fourth dimension) - sensation through a slit - gives us the sensation of motion, i.e. creates an illusion of motion, which is not actually there, and instead of which, in reality, there is only *extension* in a direction we are unable to imagine.

Yet another aspect of the question is of great importance. The fourth dimension is connected with 'time' and with 'motion'. But we shall not be able to understand the *fourth dimension* so long as we do not understand the *fifth dimension*.

Attempting to look at time as an object, Kant says that it has one dimension; this means he represents time to himself as a line extending from an infinite future into an infinite past. We are aware of one point in this line - always only one point. This point has no dimension because what we call the present in the ordinary sense of the word is only the recent past and at times also the immediate future.

This would be correct in relation to our *illusory* idea of time. But in reality *eternity* is not an infinite extension of time, but a *line perpendicular to time*; for, if eternity exists, each moment is eternal. The line of time proceeds in the order of sequence of events according to their causal interdependence - first the cause, then the effect:

before, now, after. The line of *eternity* proceeds in a direction perpendicular to this line.

It is impossible to understand time without forming an idea of

eternity, just as it is impossible to understand space without the idea of time.

From the point of view of eternity *time* in no way differs from the other lines and extensions of space - *length, breadth and height*. This means that just as space contains things we do not see or, to put it differently, more things exist than those we see, so in time 'events' exist before our consciousness comes into contact with them, and they still exist after our consciousness has withdrawn from them. Consequently, *extension in time* is extension into an unknown *space* and, therefore, time is the *fourth dimension of space*.

We must examine the question of time as a *spatial concept*, relative to our two data - the universe and our inner life.

The idea of time arises from our cognition of the world through sense-perception. It has already been pointed out that, owing to the properties of our sense-perception, we see the world as if through a narrow slit.

This gives rise to several questions.

1 Why does apparent motion exist in the world? In other words, why do we not *always see the same thing* through this slit? Why do changes take place behind the slit, which create the illusion of motion, i.e. how and why does the focus of our perception shift from place to place in the world of phenomena? In addition we must not forget that through the same slit through which we see the world we also look at ourselves and see in ourselves changes similar to the changes in everything else.

2 Why can we not enlarge this slit?

It is essential to try and answer these questions.

It should be noted, first of all, that within the limits of our ordinary observation, our perception always remains in the same conditions and cannot get out of these conditions. To put it differently, it seems chained to some kind of plane above which it is unable to rise. These *conditions or this plane* we call matter. Our ordinary inner life proceeds on a definite *plane* (of consciousness or matter) and never rises above it. If our perception could rise above this plane, it would most certainly see below *simultaneously* a far greater number of events than it usually sees from its position on the plane. If a man climbs a mountain or goes up in a balloon he sees *simultaneously* and *at once* a great many things that it is impossible to see simultaneously and at once when on earth - the movement of two trains towards one another which must result in a head-on collision; the approach of an enemy detachment to a sleeping camp; two towns separated by a

mountain ridge and so on. So in this case also, perception rising above the plane of consciousness on which it usually lives should see simultaneously phenomena which for ordinary perception are separated by *periods of time*. These would be phenomena which ordinary consciousness *never* sees together as *cause* and *effect*, for instance, work and pay; crime and punishment; the movement of trains towards each other and the collision; the approach of the enemy and the battle; sunrise and sunset; morning and evening; day and night; spring, autumn, summer and winter; the birth and death of a man.

With this ascent the angle of vision will widen, the *moment* will expand.

If we imagine perception taking place on a level above *our consciousness*, and possessing a wider angle of vision, this perception will be able to grasp as something simultaneous, i.e. *as one moment*, all that for *us* takes place in a certain period of time, a minute, an hour, a day, a month. Within the limits of *its moment* such a perception will be unable to separate *before, now* and *after*; for it, all this will be *now*. *Now* will expand.

But for this to take place it is necessary for us to be able to free ourselves from matter, because matter is nothing other than the conditions of time and space in which we live. The question arises:

can consciousness get beyond the conditions of a given material existence without itself undergoing a fundamental change, or without disappearing altogether in the ordinary sense, as the positivists would say?

This is a very debatable question. Later, I shall give examples and arguments in favour of this idea that our consciousness can get out of the conditions of a given materiality. At present I want to establish *what should take place* when it does get out.

The result should be precisely the *expansion of the moment*: all that we perceive *in time* would become one moment in which the past, the present and the future would be visible all at once. This shows the relativity of motion, inasmuch as for us it depends on the limitations of the moment, and this moment includes only a small part of the impressions of life we take in.

So we have every right to say that instead of 'time' being deduced from 'motion' it is motion that is sensed owing to *time-sense*. We have this sense, therefore we sense motion. Time-sense is the sense of successive moments. If we had no time-sense we would not sense motion. But the time-sense itself is the *boundary* or the *surface* of our 'space-sense'. Where 'space-sense' ends, 'time-sense' begins. It has been made clear that in its properties 'time' is identical with 'space',

i.e. it possesses all the attributes of *space extension*. Yet we do not feel it as space extension, but feel it as *time*, i.e. as something specific, inexpressible in any other words, indissolubly bound up with *motion*. This inability to feel time spatially is due to the fact that our time-sense is a *nebulous sense of space*; with our time-sense we feel dimly those new characteristics of space which transcend the sphere of three dimensions.

What is time-sense and why does the illusion of motion arise? The only way to answer this question in a more or less satisfactory manner is by studying the forms and levels of our inner life.

Moreover, our inner life is a complex phenomenon within which there is also constant movement. About the nature of this movement I shall speak later, but it is this movement in us that creates the illusion of movement around us, i.e. movement in the material world.

The well-known mathematician, Riemann, realized that, in regard to this question of higher dimensions, *time in some way becomes translated into space*, and he regarded the material atom as the *entrance of the fourth dimension into three-dimensional space*.

In one of his books Hinton has very interesting things to say about the 'law of surfaces':

This relationship of a surface to a solid or of a solid ... to a higher solid, is one which we often meet in nature. A surface is nothing more nor less than the relation between two things. Two bodies touch each other. The surface is the relationship of one to the other.

If our space stands in the same relationship to higher space as does a surface to our space, then our space may well be really a surface, i.e. the place of contact of two spaces of a higher order:

It is a fact worthy of notice, that in the surface of a fluid different laws obtain from those which hold throughout the mass. There are a whole series of facts which are grouped together under the name of surface tensions, which are of great importance in physics, and by which the behaviour of the surfaces of liquids is governed.

And it may well be that the laws of our universe are the surface tensions of a higher universe.

According to Hinton, if we consider the surface as a medium lying between two bodies it would certainly have no weight, but would be a powerful means of transmitting vibrations from one body to another. Moreover it would be unlike any other substance, inasmuch as one could never get rid of it. However perfect a vacuum be made between

the two bodies, there would be in this vacuum just as much of this unknown medium (i.e. surface) as there was before. Matter would go freely through this medium. Vibrations of this medium would tear asunder portions of matter. This would tend to show that this medium is unlike any ordinary matter. It possesses properties difficult to reconcile in one and the same substance. Is there anything in our experience which corresponds to this medium? Do we suppose the existence of any medium through which matter freely moves, which yet by its vibrations destroys the combinations of matter - some medium which is present in every vacuum, which penetrates all bodies, and yet can never be laid hold of? The substance which possesses all these qualities is known to us and is called the *ether*. The properties of the ether are a perpetual object of investigation in science. But in view of all the considerations mentioned earlier, it would be interesting to have a look at the world, supposing that we are not in, but on the ether, and the ether is merely the surface of contact of two higher-dimensional bodies.*

Here Hinton expresses an extremely interesting thought; he links the idea of *ether* - which in the 'material' or even the 'energy' views of modern physics remains completely unproductive and leads to a dead end - with the idea of 'time'. For him ether is not a substance but only a 'surface', the 'boundary' of *something*. But of what? Again not of a *substance*, but only the limit, the surface, the boundary of *one form of perception* and the beginning of another.

Here, in a sentence, the walls and fences of the materialistic dead end are broken down, and new and unexplored vistas revealed to our thought.

* C. H. Hinton, *A New Era of Thought*, London, George Allen & Unwin, 1910, pp. 52, 56, 57.

CHAPTER 5

Four-dimensional space. 'Time-body' - Linga Sharira. Form of the human body from birth to death. Incommensurability of a three-dimensional and a four-dimensional body. Newton's fluents. Unreality of constant magnitudes in our world. Right and left hand in three-dimensional and a four-dimensional space. Differences between three-dimensional and four-dimensional space. Not two different spaces, but two different modes of perception of one and the same world.

Four-dimensional space, if we attempt to represent it to ourselves, will be the infinite repetition of our space - of our infinite three-dimensional sphere - just as a line is the infinite repetition of a point.

A great deal of what has been said earlier will become much clearer for us if we take as our standpoint the view that the 'fourth dimension' should be looked for *in time*.

It will then become clear what is meant by saying that a four-dimensional body may be regarded as the trace of the movement in space of a three-dimensional body in a direction not contained in it. The direction, not contained in three-dimensional space, in which every three-dimensional body moves, is the direction of time. *By existing*, every three-dimensional body moves in time, as it were, and leaves the trace of its motion in the form of a time-body, or a four-dimensional body. Because of the properties of our perceiving apparatus, we never see or sense this body; we only see its *section*, and this we call a three-dimensional body. Therefore, we are greatly mistaken in thinking that a three-dimensional body is something real. It is merely the *projection* of a four-dimensional body - its drawing, its image *on our plane*.

A four-dimensional body is an infinite number of three-dimensional bodies. In other words, a four-dimensional body is an infinite number *of moments of existence* of a three-dimensional body - of its states and positions. The three-dimensional body which we see is only a figure on a cinema film, so to speak, one of a series of snapshots,

Four-dimensional space - time - is actually the distance between the forms, states and positions of one and the same body (and of different bodies, i.e. bodies which appear different to us). It separates those forms, states and positions from one another, and it also binds

each one into some whole incomprehensible for us. This incomprehensible whole may be formed in time out of one physical body, or it may be formed out of *different bodies*.

It is easier for us to imagine such a *time-'whole'* if it refers to *one* physical body.

If we think of the physical body of a man, we shall find that, besides 'matter', there is *something* which, though altering, unquestionably *remains the same* from birth to death.

This something is the *Linga Sharira* of Indian philosophy, i.e. *the form in which our physical body is moulded* (*The Secret Doctrine*, H. P. Blavatsky). Eastern philosophy regards the physical body as something *inconstant*, something which is in a perpetual state of *interchange* with its surroundings. Particles come and go. The next second the body is no longer absolutely the same as it was a second earlier; today it is already quite different from what it was yesterday. After seven years it is an *entirely different body*. But, in spite of this, *something* always remains from birth to death; its aspect may change, but it remains the same. This is *Linga Sharira*.

Linga Sharira is the form, the *image*; it changes, but it remains *the same*. Any image of a man that we may portray to ourselves is not *Linga Sharira*. But if we try to form a mental picture of a man -stretched out in time, as it were - from birth to death, with all the details and features of childhood, maturity and old age, this will be *Linga Sharira*.

All *things* have *form*. We say that each separate thing consists of *matter and form*. As was already said by 'matter' we mean the causes of a long series of mixed sensations; but matter without form is not perceived by us; we cannot even *think* of matter without form. But we can visualize and think of form without matter.

A *thing*, i.e. a combination of form and matter, is never *constant*, it always changes in the course of time. This idea enabled Newton to evolve his theory *affluents and fluxions*.

Newton came to the conclusion that there are no *constant magnitudes* in nature. Only variable, *flowing* magnitudes exist -*fluents*. Newton named the rates of change of individual fluents, *fluxions*.

From the point of view of this theory all the things we know -people, plants, animals, planets - are fluents, and only differ from each other by the magnitude of their fluxions. But, while constantly changing in time, sometimes very radically and quickly, as for instance, a living body, a *thing* still remains *the same*. A man's body in youth, a man's body in old age - it is still the same body, although we know that in the old body not an atom of the young body is left.

Matter changes, but *something* remains *the same* notwithstanding all the changes. This something is Linga Sharira. Newton's theory is true for a three-dimensional world existing in time. In this world nothing is constant. Everything is variable, because every moment a thing is no longer what it was before. We never see the body of Linga Sharira, we always see only its parts, and they appear to us variable. But if we look more closely, we shall see that this is an illusion. It is three-dimensional things that are unreal and variable. And they cannot be real, because, in actual fact, they do not exist, just as *imaginary sections* of a solid do not exist. Only four-dimensional bodies are real.

In one of his lectures collected in the book, *A Pluralistic Universe*, Professor James draws attention to an observation by Professor Bergson that science always studies only the *t of the universe*, i.e. not the universe as a whole, but only the *moment*, the 'time-section' of the universe.

The properties of four-dimensional space will become clearer for us if we make a detailed comparison of three-dimensional space with a surface and find out the differences that exist between them.

In his book, *A New Era of Thought*, Hinton examines these differences carefully. He imagines two equal right-angle triangles cut out of paper and placed on a plane surface with the right angles pointing in different directions. These triangles are exactly equal but, *for some reason*, they are quite different. One has its right angle pointing to the right, the other points to the left. If anyone wishes to make these triangles *absolutely identical*, it can only be done with the help of three-dimensional space. This means that one of the triangles must be picked up, turned over and replaced on the plane. Then they will be two equal and *absolutely identical* triangles. But to do this, it is necessary to lift one triangle from the plane into three-dimensional space and turn it over in that space. If this triangle is left on the plane, it can never be made identical with the other if, at the same time, the relation between the angles of the two triangles is to be kept. If the triangle is merely turned round on the plane, this relation will not be maintained. In our world there are figures completely analogous to these two triangles.

We know certain shapes which are equal the one to the other, which are exactly similar, and yet which we cannot make fit into the same portion of space, either practically or by imagination.

If we look at our hands we see quite clearly that our two hands are a very complicated case of non-symmetrical likeness. They are at the same time alike and quite different. One is *right*, the other is *left*. We can imagine only one way in which the two hands may be brought into complete likeness.

If we take the right-hand glove and the left-hand glove, they will not fit any more than the right hand will coincide with the left hand. But if we turn one glove inside out, then it will fit. Now, to suppose the same thing done with the solid hand as is done with the glove when it is turned inside out, we must suppose it, so to speak pulled through itself. ... If such an operation were possible, the right hand would be turned into an exact model of the left hand.*

But such an operation would be possible only in higher-dimensional space, just as the turning over of the triangle is possible only in a space higher than the plane. It is possible that, even granting the existence of four-dimensional space, a hand cannot be turned inside out and pulled through itself for reasons not dependent on geometrical conditions. But the example still holds good. Theoretically, things in the nature of the turning of a hand inside out should be possible in four-dimensional space, for in that space different, even very far removed points of our space *and time* should come into contact or be able to come into contact. All the points of a sheet of paper spread out on a table are separated from one another. But, if we lift the sheet off the table, we can fold it so as to bring any points we like into contact. If on one corner we write 'St Petersburg' and on another 'Madras', this will not prevent us from folding these corners together. Or, if on one corner the year 1812 is written, and on another the year 1912, these corners can also be made to touch. If the year on one corner is written in red ink and the ink is not yet dry, the figures may get imprinted on another corner. Then, if the sheet is once more opened out and placed on the table, to a man who does not know that it can be lifted off the table and folded in many different ways, it will appear quite incomprehensible how a figure on one corner could become imprinted on another corner. The possibility of any contact between distant points of the sheet will be incomprehensible for him and will remain incomprehensible for him so long as he thinks of the sheet in two-dimensional space only. As soon as he imagines the sheet in three-dimensional space, this possibility will become real and obvious for him.

* C. H. Hinton, *A New Era of Thought*, London, George Allen & Unwin, 1910, p. 44.

Examining the relation of the fourth dimension to the three dimensions known to us, we must admit that our geometry is obviously inadequate for the investigation of higher space.

It was pointed out earlier that a four-dimensional body is incommensurable with a three-dimensional one, just as a *year* is incommensurable with *St Petersburg*.

It is quite clear why this is so. A four-dimensional body consists of an infinitely great number of three-dimensional bodies; therefore, they can have no common measure. In comparison with a four-dimensional body, a three-dimensional body is *analogous to a point* as compared with a line.

And, as a point is *incommensurable* with a line, as a line is incommensurable with a surface, as a surface is incommensurable with a solid - so a three-dimensional body is incommensurable with a four-dimensional one.

It is also clear why the geometry of three dimensions is not sufficient to define the *position* of the domain of the fourth dimension in relation to three-dimensional space.

Just as in one-dimensional geometry, i.e. on a line, it is impossible to define the *position* of the surface of which the given line is a side;

just as on the surface - two-dimensional geometry - it is impossible to define the position of the solid of which the given surface is a side, so in three-dimensional geometry, in three-dimensional space, it is impossible to define four-dimensional space. Putting it briefly, as planimetry is inadequate for the study of questions of stereometry, so stereometry is inadequate for the study of four-dimensional space.

As a deduction from everything that has been said, it may be repeated that each point of our space is a cross-section of a line of a higher space, or as Riemann put it: the material atom is the entry of the fourth dimension into three-dimensional space.

In order to come nearer to this problem of higher dimensions and higher space it is first of all necessary to understand the essence of the domain of higher dimensions and its properties as compared with the domain of three dimensions. Only then will it be possible to investigate this domain more precisely and find out the laws which operate in it.

What is it that we have to understand?

It seems to me that, before anything else, it is necessary to understand that here it is not a question of *two* spatially different domains — or of two domains, one of which (again spatially, 'geometrically')

constitutes a part of the other - but of two modes of perception of the same *one* world of one space.

Further, it is necessary to understand that all the objects known to us exist not only in the categories in which we perceive them, but in an infinite number of others in which we do not know, or are unable to know, how to sense them. So first of all we must learn to *think* of things in other categories, then represent them to ourselves as far as we can in these other categories. Then and then only we may develop the capacity for perceiving things in higher space, and of sensing 'higher space' itself.

Or, perhaps, the first thing required is a direct perception of everything in the surrounding world that is not included within the framework of three dimensions, that exists outside the category of time and space - everything, therefore, that we are accustomed to regard as non-existent. *It variability* is a sign of the three-dimensional world, we must seek for that which is *constant*, and in this way we may come closer to an understanding of the four-dimensional world. Moreover, we are accustomed to regard as really existing only that which can be measured in length, breadth and height. But, as has been pointed out already, it is necessary to widen the boundaries of the *really existing*. *Mensurability* is too crude a criterion of existence, because mensurability itself is too conditioned a concept. So we may say that any approach to an exact investigation of the domain of higher dimensions probably requires the conviction, derived from direct sensation, that many things that *cannot be measured* have a real existence, more real indeed than many things that can be measured.

CHAPTER 6

Methods of investigating the problem of higher dimensions. Analogy between imaginary worlds of different dimensions. One-dimensional world on a line. 'Space' and 'time' of a one-dimensional being. Two-dimensional world on a plane. 'Space' and 'time', 'ether', 'matter' and 'motion' of a two-dimensional being. Reality and illusion on a plane. Impossibility of seeing an 'angle'. An 'angle' as motion. Incomprehensibility, for a two-dimensional being, of the functions of the objects of our world. Phenomena and noumena of a two-dimensional being. How could a plane being understand the third dimension?

In order to determine what the domain of higher dimensions could be and what it *could not* be, a series of analogies and comparisons are generally used.

The usual way is to imagine 'worlds' of one and two dimensions and, from the relationship between the lower worlds and the higher worlds to deduce the possible relation of our world to the four-dimensional world in the same way as from the relations of points to line, of lines to surfaces, of surfaces to solids, we deduce the relationship of our solids to four-dimensional bodies.

Let us examine all that this method of analogies has to offer.

Let us imagine a *one-dimensional world*.

It will be a line. On this line let us imagine living beings. They will only be able to move backwards and forwards along this line which represents their universe, and they themselves will have the aspect of points or sections of the line. Nothing outside this line will exist for them, neither will they be conscious of the line itself on which they live and move. Only two points will exist for them - ahead and behind; or maybe only one point, ahead. Observing changes in the state of these points the one-dimensional being will call these changes *phenomena*. If we suppose that the line on which the one-dimensional being lives, passes through various objects of our world, then, in all these objects the one-dimensional being will see only one point. If his line is intersected by different bodies, the one-dimensional being will sense them only as the appearance, the more or less prolonged existence and the disappearance of a point. This appearance, existence and disappearance of a point will be a

phenomenon. For the one-dimensional being phenomena will be constant or variable, of long or short duration, periodical or not periodical, according to the character and qualities and the rate and nature of the motion of objects passing through the line. But the one-dimensional being will be totally unable to explain the constancy or variability, the long or short duration, the periodicity or non-periodicity of the phenomena of his world, and will simply regard these as attributes inherent in the phenomena. Bodies intersecting the line may be very different, but for the one-dimensional being all phenomena will be absolutely *identical* - only the appearance and disappearance of a point - and all phenomena will differ from one another only in duration and greater or lesser periodicity.

This curious monotony and homogeneity of phenomena, which, from our point of view, are so diverse and heterogeneous, will be the characteristic peculiarity of the one-dimensional world.

Then, if we suppose that the one-dimensional being possesses memory, we shall see that, calling all the points he has seen *phenomena*, he will refer them all to time. The point which *was* is a phenomenon *no longer* existing, and the point which may appear tomorrow is a phenomenon *not yet* existing. The whole of our space, with the exception of one line, will be called time, i.e. something whence phenomena come and whither they go. And the one-dimensional being will say that he got the idea of time from the observation of motion, i.e. from the appearance and disappearance of points. Points will be regarded as time-phenomena, i.e. as phenomena coming into being at that moment when they become visible, and disappearing - *ceasing to exist* - at that moment when they become invisible. It is impossible for a one-dimensional being to imagine that a phenomenon can exist somewhere and yet be invisible; or he will imagine it as existing somewhere on his line, far ahead of him.

We can imagine this one-dimensional being still more realistically. Let us take an atom floating in space, or simply a speck of dust driven by the wind, and let us suppose that this atom or speck of dust possesses consciousness, i.e. that it differentiates between itself and the surrounding world and is conscious of that which lies on the line of its motion, that with which it comes into direct contact. This will be a one-dimensional being in the full sense of the word. He may move and fly in all directions, but it will always seem to him that he moves on one line; outside this line only a vast *Nothing* will exist for him - the whole universe will appear to him as one line. He will neither feel nor represent to himself any of the turnings of his line,

that is, none of the angles, because to feel an angle, one must be aware of what lies to the right and the left, or above and below. In all other respects this being will be absolutely identical with the imaginary being living on the imaginary line I have just described. Everything he comes into contact with, i.e. everything he is conscious of, will seem to him to be emerging from time, i.e. out of nothing, and vanishing into time, i.e. into nothing. This *nothing* will be all our world. Apart from one line, the whole of our world will be called *time* and will be regarded as having *no real existence*.

Now let us consider the two-dimensional world and a being living on a plane. For this being the universe will be one vast plane. On this plane let us imagine beings in the shape of points, lines and flat geometrical figures. The objects and 'bodies' of this world will also have the shape of flat geometrical figures.

How will a being living on this plane universe perceive his world? We can say, first of all, that he will not sense the plane on which he lives. He will sense the objects, i.e. the figures lying on this plane; he will sense the lines which bound them, and for that very reason he will not sense his own plane because if he did, he would be unable to distinguish these lines. The lines will differ from the plane by the fact that they produce sensations, consequently they exist. The plane does not produce sensations; consequently it does not exist. Moving along the plane and not experiencing any sensations, the two-dimensional being will say that at the moment there is nothing there. Approaching some figure and getting the sensation of its lines, he will say that something has appeared. But gradually, through reasoning, the two-dimensional being will come to the conclusion that the figures he meets with exist *on something* or *in something*. So he may call this plane - 'ether' (of course, he will not know that it is actually a plane). Then he will say that 'ether' fills all space, but differs in its properties from 'matter'. So he will call lines - 'matter'. As a result, the two-dimensional being will regard everything that happens as happening in his 'ether', that is, in his space. He will not be able to imagine anything as being outside this ether, i.e. outside his plane. If something happening outside his plane reaches his consciousness, he will either deny it, taking it as subjective, i.e. as a creation of his own imagination, or he will think of it as he thinks of all other phenomena, as happening on that very plane, *in ether*.

Sensing the lines only, the plane being will sense them quite differently from us. *First of all, he will not sense an angle*. It is very easy to verify this in practice. If we hold *on a level with our eyes* two

matches placed on a horizontal surface at an angle to one another, we will see one line. To see the angle we must *look from above*. The two-dimensional being cannot look from above, and therefore cannot see an angle. But by measuring the distance between the lines of the different 'solids' of his world, the two-dimensional being will be constantly confronted with angles and will regard the angle as a strange property of the line which at times appears and at others does not appear. In other words, he will refer the angle to time, will regard it as a transitory temporal phenomenon - a change in the state of the 'solid' - or as *motion*. It is difficult for us to understand this, difficult to imagine how an angle can be taken as motion. But it must necessarily be so and cannot be otherwise. If we try to visualize how a plane being will study a square, we shall see that for a plane being the square must necessarily be a *moving body*. Let us imagine a plane being faced with one of the angles of the square. He does not see the angle - in front of him there is a line, but a line possessing very strange properties. As he comes nearer to this line, the two-dimensional being will see a strange thing happening to the line. One point will remain in its place, but the other points, on both sides, will *recede backwards*. I repeat: the two-dimensional being has no idea of an angle. *In its outward appearance* the line will remain the same as it was; and yet, something will undoubtedly be happening to it. The plane being will say that the line moves, but so rapidly that it appears to be motionless. If the plane being draws away from the angle and moves along a side of the square, this line will become motionless. Reaching an angle, he will again notice *motion*. If he makes the circuit of the square several times, he will establish the fact that there are regular periodical movements of this line. It is probable that for the mind of the plane being, the square will be his conception of a body possessing the property of periodical movements, unnoticeable to the eye but producing definite physical effects (*molecular motion*), or the idea of periodical *moments* of rest and motion in one complex line; and still more probably the square will appear to him as a *rotating body*.

Very likely, the plane being will regard the angle as his own subjective representation and will doubt whether any objective reality corresponds to this subjective representation. But all the same, he will think that so long as an *action* capable of being measured exists, it must have a cause, and this cause must lie in the changing states of the line, i.e. in motion.

The plane being may call the lines he sees - *matter*, and the angles - *motion*. Thus, the plane being will call an irregular line with an

angle - *moving* matter. And indeed for him, because of its properties, such a line will be completely analogous to matter in motion.

If a cube is placed on the plane on which the plane being lives, the whole cube will not exist for the two-dimensional being, but only the square surface of it which is in contact with the plane, that is to say, the cube will exist as a line with periodical movements. In the same way, all other bodies lying outside his plane, touching his plane or passing through it, will not exist for the two-dimensional being. He will be able to sense only their surfaces of contact or their sections. But if these surfaces or sections move or change, quite naturally, the two-dimensional being will think that the *cause of change* or motion lies in themselves, i.e. is also there, on his plane.

It has already been said that the two-dimensional being will regard only straight lines as motionless matter, irregular lines or curves will appear to him to be moving. As regards the *really moving* lines, i.e. those lines which bind the sections or the surfaces of contact of the bodies moving through the plane or along the plane, these will contain something incomprehensible for a two-dimensional being, something *impossible to measure*. They will seem to have in them something self-existing, self-dependent, *animated*. There are two reasons for this: the two-dimensional being *can measure* motionless angles and curves, whose properties he calls motion, for the very reason that they are motionless; but he cannot measure moving figures because the changes in them are outside his control. These changes will depend on the properties of the *whole body* and its motion, whereas the two-dimensional being knows only its section, only one side of the whole body. Having no idea of the existence of that body and regarding its motion as inherent in the sides and sections, *he will probably regard them as living beings*. He will credit them with the possession of something which is absent in ordinary bodies - vital energy, or even soul. This something will be regarded as unknowable for a two-dimensional being, since it is the result of an incomprehensible motion of incomprehensible bodies.

If we imagine a stationary circle lying on the plane, for a two-dimensional being this circle will appear as a moving line, possessing very strange and incomprehensible motion.

The plane being will never see this motion. He may possibly call it *molecular motion*, i.e. the movement of minute, invisible particles of 'matter'.

For a two-dimensional being, a circle rotating round a central axis will, in some incomprehensible way, appear different from a stationary circle. *Both will seem to be moving, but moving differently.*

Owing to its double movement, a circle or a square lying on the plane and rotating round its centre, will be, for a two-dimensional being, an incomprehensible and unmeasurable phenomenon, somewhat similar to the *phenomenon of life* for the modern physicist.

Thus, for a two-dimensional being, a straight line will be motionless matter; an irregular line or a curve will be matter in motion; and a moving line will be *living* matter.

The centre of a circle or a square will be inaccessible to the plane being, just as the centre of a sphere or a cube made of solid matter is inaccessible to us. Moreover, the two-dimensional being will be incapable of even understanding about a centre, since he will have no idea of what a centre means.

It has already been said that, having no conception of any phenomena occurring outside the plane, i.e. outside his space, the plane being will regard all phenomena as taking place on his plane. And all these phenomena, supposedly taking place on his plane, he will regard as being in causal interdependence *one with another*, that is, he will think that one phenomenon is the effect of another *which has also taken place there* - on his plane - and the cause of a third *which will take place there also*.

If a multi-coloured cube passes through the plane, the whole cube and its motion will be perceived by the plane being as changes in the colour of the lines lying on the surface. So, if a blue line replaces a red one, the plane being will regard the red line as a *past event*. He will be unable to conceive of the red line still existing somewhere. He will say that the line is the same but that *it has become blue* owing to certain causes of a physical nature. If the cube starts moving backwards and the red line again replaces the blue line, it will be a *new phenomenon* for the plane being. He will say that the line has become red again.

Everything situated above and below, if the plane is horizontal, or to the right and left if the plane is vertical, will lie in time for a being living on that plane, that is, it will be in the past and the future. Everything that exists in reality outside the plane will be regarded as non-existent: either as already in the past, i.e. as something that has vanished, ceased to be, something that will never return; or in the future, i.e. as something not yet existing, not manifested but merely potential.

Let us imagine a wheel with multi-coloured spokes rotating through the plane on which lives a two-dimensional being. The movement of the spokes will appear to a two-dimensional being as changes in the colour of a line lying on the surface. The plane being will call these

changes phenomena and, observing these phenomena, he will notice a certain sequence in them. He will know that the black line is followed by a white one, the white by a blue, the blue by a pink. If something else is connected with the appearance of the white line - the ringing of a bell for instance - the two-dimensional being will say that the white line is the cause of the ringing. The changing colour of the lines will, in the opinion of the two-dimensional being, depend on some causes to be found there, on his plane. Any conjecture as to the possible existence of causes lying *outside* the plane he will dismiss as utterly fantastic and absolutely unscientific. And this will be so because he himself will never be able to visualize the *wheel*, i.e. the different parts of the wheel on each side of the plane. Having studied the changes in the colour of the lines and learnt their order, the plane being, on seeing one of them - say, the blue one - will think that the black and the white have already passed, i.e. have vanished, have ceased to exist, have *receded into the past*; whereas the lines which have not yet appeared - the yellow, the green and so on, and among them the *new* white and the *new* black which are to come - do not yet exist but lie in the future.

Thus, although not conscious of the form of his universe and regarding it as infinite in all directions, the plane being will involuntarily think of the past as lying somewhere on one side of *everything*, and of the future as lying somewhere on the other side of *everything*. This is how the two-dimensional being arrives at the *idea of time*. We see that this idea arises from the fact that, out of three dimensions of space, the two-dimensional being is aware of only two; the third dimension he senses only through its effects on the plane; therefore he regards it as something distinct from the first two dimensions of space, and calls it *time*.

Now let us imagine two wheels with multi-coloured spokes rotating through the plane on which the two-dimensional being lives, and rotating in opposite directions. The spokes of one of them come from above and go below; the spokes of the other come from below and go above.

The plane being will never notice this.

He will never notice that in the direction in which for one line, visible to him, lies the past, for the other line lies the future. This thought will never even occur to him, because he will have a very nebulous idea of both the past and the future, and will regard them only as *concepts*, and not as concrete facts. At the same time he will be firmly convinced that the past proceeds *in* one direction and the future *in another*. For him it will seem a wild absurdity that on one side

something past and *something future* may lie together, and on another side, also together, something future and *something past*. No less absurd will be the idea that some phenomena appear from where others disappear and vice versa. He will persist in thinking that the future is that from which everything comes and the past is that to which everything goes, and *from which nothing returns*. The plane being will be incapable of understanding that phenomena may proceed from the past as well as from the future.

Thus we see that the plane being will have a very naive view of the changing colour of the line lying on the surface. The appearance of *different* spokes he will regard as changes in the colour of *one and the same line*, and, for him, the recurring appearance of a spoke of the same colour will be, each time, a *new* appearance of the given colour.

Yet, having noticed a certain periodicity in the changes of the colour of the lines on the surface, having memorized the order of their appearance and learned to determine the 'time' of the appearance of certain spokes in relation to some other more permanent phenomenon, the plane being will be able to foretell the change of the line from one colour to another.

Then he will say that he *has studied* this phenomenon, i.e. that he can apply to it the 'mathematical method' - can 'calculate it'.

If we enter the world of the plane being, he will sense only the lines bounding the sections of our bodies. These sections, which will be *living beings* for him, will appear from nowhere, change for no apparent reason, and disappear somewhere *in a miraculous manner*. The sections of all our inanimate but moving objects will also be independent living beings for him.

If the consciousness of a plane being could have the faintest suspicion of our existence or enter into any kind of communication with our consciousness, we would be for him higher, omniscient, maybe omnipotent and, above all, unknowable beings *of a totally incomprehensible category*.

We would see his world *as it is* and not as it appears to him. We would see the past and the future; we would be able to foretell, direct and even create events.

We would know the essence of things. We would know what 'matter' (a straight line) is, what 'motion' (a curve, an irregular line, an angle) is. We would see the *angle* and see the *centre*. And this would give us an enormous advantage over a two-dimensional being.

In all the phenomena of the two-dimensional world we would see

much more than the plane being does, or would see something quite different from what he sees.

We would be able to tell him many new, unexpected and striking things about the phenomena of his world - if he could hear and *understand us*.

First of all, we would be able to tell him that what he regards as phenomena, such as angles and curves, are the *properties of higher bodies*; that other 'phenomena' of his world are not phenomena at all but only parts or 'sections' of phenomena; that what he calls 'bodies' are only sections of bodies - and many other things besides.

We could tell him that on both sides of his plane (i.e. his space or his ether) there lies an infinite space (which the plane being calls time), and in that space lie not only the causes of all his 'phenomena' but the phenomena themselves, either of the past or the future. And we could add that a 'phenomenon' is not just something that happens and then ceases to be, but is a combination of the properties of higher bodies.

Nevertheless, we would find it very difficult to explain anything to a plane being, and he would find it very difficult to understand us. Above all, it would be difficult because he would have no *concepts* corresponding to our concepts. The necessary 'words' would be lacking.

For instance, *section* would be a completely new and incomprehensible word for him. Then, *angle* - again an incomprehensible word. *Centre* - still more incomprehensible. The *third* perpendicular - something unfathomable, lying outside his geometry.

The most difficult thing for the plane being to understand would be the error of his idea of time. He would never be able to imagine that *what has passed* and *what is to come* exist simultaneously on lines at right angles to his plane. He could never understand that the past is identical with the future, since phenomena can both come and go from either side.

But the most difficult thing of all for the plane being to understand would be that 'time' contains *two ideas*: the idea of space and the idea of motion in this space.

We have pointed out already that that which a two-dimensional being living on a plane calls motion, would bear quite a different aspect for us.

In his book, *The Fourth Dimension*, under the title 'The First Chapter in the History of Four Space' Hinton writes:

Parmenides, and the Asiatic thinkers with whom he is in close affinity, propound a theory of existence which is in close accord with a conception of a possible relation between a higher and a lower dimensional space. This theory ... is one which in all ages has had a strong attraction for pure intellect, and is the natural mode of thought for those who refrain from projecting their own volition into nature under the guise of causality.

According to Parmenides of the school of Elea the all is one, unmoving and unchanging. The permanent amid the transient - that foothold for thought, that solid ground for feeling on the discovery of which depends all our life - is no phantom; it is the image amidst deception of true being, the eternal, the unmoved, the one. Thus says Parmenides.

But how to explain the shifting scene, these mutations of things!

'Illusion', answers Parmenides. Distinguishing between truth and error, he tells of the true doctrine of the one — the false opinion of a changing world. He is no less memorable for the manner of his advocacy than for the cause he advocates. . . .

Can the mind conceive a more delightful intellectual picture than that of Parmenides, pointing to the one, the true, the unchanging, and yet on the other hand ready to discuss all manner of false opinion? . . .

In support of the true opinion he proceeded by the negative way of showing the self-contradictions in the ideas of change and motion. ... To express his doctrine in the ponderous modern way we must make the statement that motion is phenomenal, not real.

Let us represent his doctrine.

Imagine a sheet of still water into which a slanting stick is being lowered with a motion vertically downwards. Let 1, 2, 3 (Figure 1), be three consecutive positions of the stick. A, B, C, will be three consecutive positions of the meeting of the stick, with the surface of the water. As the stick passes down, the meeting will move from A on to B and C.

Suppose now all the water to be removed except a film. At the meeting of the film and the stick there will be an interruption of the film. If we suppose the film to have a property, like that of a soap bubble, of closing up round any penetrating object, then as the stick goes vertically downwards the interruption in the film will move on.

If we pass a spiral through the film the intersection will give a point moving in a circle shown by the dotted lines in the figure (Figure 2).*

For the plane being such a point, moving in a circle on its surface will probably be a cosmic phenomenon in the nature of the motion of a planet in its orbit.

Suppose now the spiral to be still and the film to move vertically upwards, the circular motion of the point will continue until this motion stops.

If instead of one spiral we take a complicated structure of spirals, inclined lines, straight lines, irregular lines and curves, then, with

* C. H. Hinton, *The Fourth Dimension*, London, 1912, reprinted Arno Press, New York, 1976, pp. 23, 24, 25.

Relation of two- to three-dimensional perception

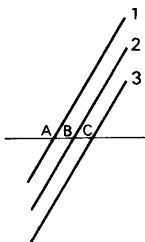


Figure 1

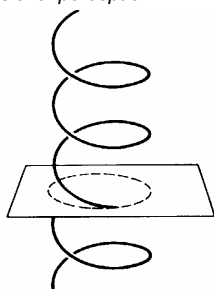


Figure 2

the movement of the film upwards, we shall have in the film *a whole world* of moving points, whose movements will appear independent to the plane being.

The plane being will naturally explain these movements as dependent upon one another, and the fictitious nature of this movement and its dependence on spirals and other lines lying outside his space will never occur to him.

If we examine the relationship of the plane being to the three-dimensional world we shall see that the two-dimensional plane being would find it very difficult to understand all the *complexity* of the phenomena of our world, as it appears to us. The plane being is accustomed to represent to himself too simple a world.

Taking sections of bodies for bodies, the plane being would compare them only as regards their length and their greater or lesser curvature, i.e. *for him* their greater or lesser speed of motion. Such differences as exist *for us* between the things of our world, could not exist for him. The functions of the objects of our world would be utterly beyond his understanding; they would be incomprehensible, 'supernatural'.

Imagine a coin and a candle, both of the same diameter, placed on the plane on which the two-dimensional being lives. For the plane being these would be two equal circles, i.e. two moving lines, *absolutely identical*; he would never discover any difference between them. The functions which the coin and the candle have *in our world* would be for him entirely *terra incognita*. If we try to imagine what a tremendous evolution the plane being would have to undergo in order to understand the functions of the coin and the candle and the difference between these functions, we should understand *what it is* that divides the plane world from the three-dimensional world.

Before anything else, they are divided because of the utter impossibility - on a plane - of even imagining anything like the three-dimensional world with all the variety of its functions.

The properties of the phenomena of the plane world will be extremely monotonous; phenomena will be distinguished by the order of their appearance, their duration, their periodicity. Bodies and objects of this world will be flat and uniform, like *shadows*, i.e. like the shadows of completely different objects, which seem to us alike. Even if the consciousness of a plane being could enter into communication with our consciousness, he would still be unable ever to understand all the variety and richness of phenomena of our world and the variety of functions of our objects.

Plane beings would be unable to grasp any of our most ordinary concepts.

It would be very difficult for them to understand that phenomena which are *the same for them* are actually *different* and that, on the other hand, phenomena which are quite separate for them are actually parts of one big phenomenon, or even parts of one object or one being.

This last would be one of the most difficult things for the plane being to understand. If we suppose our two-dimensional being to live on a horizontal plane, intersecting the top of a tree, but parallel to the earth, then for him the sections of branches will appear each as a *completely independent* phenomenon or object. The idea of a tree with its branches can never even occur to him.

Altogether, to understand even the most fundamental and simple things of our world will be, for the plane being, an infinitely long and difficult process. He will have to remodel his ideas of space and time. This must be the first step. Nothing can be achieved until this is done. So long as the plane being visualizes all our universe in time, i.e. refers to time everything that lies on both sides of his plane, he will never understand anything. In order to begin to understand the 'third dimension', the two-dimensional being living on the plane must visualize all his time-concepts *spatially*, i.e. translate his time into space.

To achieve even an inkling of a right conception of our world, he must completely reconstruct all his ideas of the world - *revalue all his values*, re-examine all his concepts; he must disunite all those concepts which unify and bring together those which disconnect and, above all, he must create an infinite number of new concepts.

If we place five fingertips on the plane of the two-dimensional being, this will represent for him five separate *phenomena*.

Let us try to imagine the enormous mental evolution the plane being must undergo to understand that the five separate phenomena on his plane are the fingertips of the hand of a large, active and intelligent being - man.

It would be extremely interesting to follow, step by step, the road the plane being must travel to come to the understanding of our world which, for him, lies in the region of the mysterious *third dimension*, i.e. partly in the past, partly in the future. In order to comprehend the three-dimensional world, the plane being must, first of all, *cease to be* two-dimensional, i.e. he must himself become three-dimensional; in other words, he must enter into the life interests of a three-dimensional space. If he feels the interests of that life he will, by this very fact, draw away from his own plane and will never be able to return there. Entering more and more into the orbit of ideas and concepts which previously were totally incomprehensible for him, he will no longer be a two-dimensional being, but will become a three-dimensional one. But for this the plane being must really *be* three-dimensional, i.e. without being aware of it, he must *possess* a third dimension. A *really two-dimensional* being will never become three-dimensional. In order to *become* three-dimensional, he must *be* three-dimensional. Then, in the end, he will be able to get free from the *illusion* of the two-dimensionality of the world and of himself, and feel the three-dimensional world.

CHAPTER 7

Impossibility of a mathematical definition of dimensions. Why does mathematics not feel dimensions? The entirely conventional character of the designation of dimensions by powers. The possibility of representing all the powers on a line. Kant and Lobachevsky. The difference between non-Euclidean geometry and metageometry. Where should we seek the explanation of the three-dimensionality of the world, if Kant's ideas are correct? Are not the three-dimensional conditions of the world to be found in our perceiving apparatus, in our mind?

Now that we have examined the 'relations which our space itself bears within it' we must return to the question: *what really are the dimensions of space and why are there three of them?*

What must strike us as most strange is the fact that it is impossible to define *three-dimensionality* mathematically.

We are not clear about this, and it seems a paradox to us, because we always speak of *measuring* space; nevertheless, it is a fact that mathematics *does not feel* the dimensions of space.

The question arises, how can such a fine instrument of analysis as mathematics is, not feel dimensions if they constitute certain real properties of space?

In speaking of mathematics, it is necessary, first of all, to accept as a fundamental premise that/or *every mathematical expression there is a corresponding relation of certain realities.*

If this is absent, if this is not so - then there is no mathematics. Expressing the relations of magnitudes is the task of mathematics;

this is its main essence, its chief content. But relations must be between something. It should always be possible to substitute some reality for the algebraical a , b and c . This is the ABC of all mathematics; a , b and c are banknotes: they may be genuine, if they have *something* real behind them, or they may be counterfeit, if behind them there is no reality.

'Dimensions' play here a very curious role. If we designate them by the algebraic symbols, a , b and c , these symbols will have the character of counterfeit banknotes: they cannot be replaced by any real magnitudes capable of expressing the relations of dimensions.

Usually, dimensions are designated by powers - the first, the

second, the third. That is to say, if a line is called a , then the square, the sides of which are equal to this line will be a^2 , and the cube, the sides of which are equal to this square, will be a^3 .

As a matter of fact this is what provided Hinton with a basis for his theory of *tessaracts*, or four-dimensional solids - a^4 . But this is sheer fantasy, because, in the first place, the designation of dimensions by powers is purely conventional. All powers may be represented on a line. Let us take a 5-millimetre segment of the line a . Then a 25-millimetre segment will be its square, or a^2 ; and a 125-millimetre segment will be its cube, or a^3 .

How are we to understand that mathematics does not feel dimensions, i.e. that the difference between dimensions cannot be expressed mathematically?

It can be understood and explained in one way only, namely, by the fact that *this difference does not exist*.

Of course we know that all the three dimensions are actually identical, i.e. that each of the three dimensions in its turn may be regarded as *the first*, the *second*, the *third*, or vice versa. This by itself proves clearly that dimensions are not mathematical magnitudes. All the real properties of a thing can be expressed mathematically as magnitudes, i.e. as numbers showing the relation of these properties to other properties.

In the question of dimensions, however, mathematics seems to see more, or farther, than we do; certain boundaries which stop us do not seem to hinder mathematics from looking *through* them and seeing that there are no realities to correspond to our concepts of dimensions.

If the three dimensions *really* corresponded to the three powers, we should have the right to say that only three powers refer to geometry, and that all the other relations between higher powers, beginning from the fourth, lie beyond geometry.

But we have not even got the right to say that. The designation of dimensions by powers is absolutely conventional.

Or, it would be more correct to say that, from the point of view of mathematics, geometry is an artificial construction for the purpose of solving problems based on conditional *data*, probably deduced from the characteristics of our mentality.

Hinton calls the system of investigation of 'higher space', *meta-geometry*, and he connects the names of Lobachevsky, Gauss and other investigators of non-Euclidean geometry with metageometry.

Let us now examine how the theories of these scientists stand in relation to the questions we have raised.

Hinton deduces his ideas from Kant and Lobachevsky.

Others, on the contrary, set Kant's ideas in opposition to those of Lobachevsky. Thus, Roberto Bonola, in *Non-Euclidean Geometry*, says that Lobachevsky's view of space is opposed to that of Kant. He says:

The Kantian doctrine considered space as a subjective intuition, a necessary presupposition of every experience. Lobachevsky's doctrine was rather allied to sensualism and the current empiricism, and compelled geometry to take its place again among the experimental sciences!*

Which view is correct and in what relation do Lobachevsky's ideas stand to our problem? The most correct answer would be: in no relation. Non-Euclidean geometry is not *metageometry*, and non-Euclidean geometry stands to metageometry in the same relation as does Euclidean geometry.

The results of all non-Euclidean geometry, which revalued the fundamental axioms of Euclid and found its fullest expression in the works of Bolyai, Gauss and Lobachevsky, are expressed in the formula:

The axioms of a given geometry express the properties of a given space.

Thus, plane geometry accepts all three Euclidean axioms, i.e.:

- 1 A straight line is the shortest distance between two points.
- 2 Any figure may be transferred to another place without interfering with its properties.
- 3 Parallel lines do not meet. (This last axiom is usually formulated differently according to Euclid.)

In the geometry of a sphere or a concave surface only the first two axioms are true, for the meridians, parallel at the equator, meet at the poles.

In the geometry of an irregularly curved surface only the first axiom is true; the second (about the transfer of figures) no longer holds good, for a figure taken from one place of an irregular surface may change when transferred to another place. And the sum of the angles of a triangle may be more or less than two right angles.

Thus, *axioms* express the difference in the properties of different kinds of surfaces. A geometric axiom is a law of a *given* surface.

* Roberto Bonola, *Non-euclidean Geometry, a Critical and Historical Study of its Development*, Open Court Publishing Co., Chicago, 1912, pp. 92 and 93.

But what is a surface?

Lobachevsky's merit lies in the fact that he found it necessary to revise the fundamental concepts of geometry. But he never went so far as to revalue them from Kant's point of view. Yet at the same time, he never argued against Kant in any sense. For Lobachevsky, as a geometer, a *surface* was merely a means for the generalization of certain properties upon which one or another geometric system was built, or the means for generalizing the properties of certain given lines. He probably never thought at all about the reality or the unreality of a surface.

Thus, on the one hand, Bonola is quite wrong in ascribing to Lobachevsky views opposed to those of Kant, and approaching 'sensualism' and 'the current empiricism'; while on the other hand, there are grounds for thinking that Hinton is quite subjective in ascribing to Lobachevsky and Gauss the inauguration of a new era in *philosophy*.

Non-Euclidean geometry, including Lobachevsky's geometry, bears no relation to *metageometry*.

Lobachevsky does not go outside the sphere of three dimensions.

Metageometry regards the sphere of three dimensions as a *section* of higher space. Among the mathematicians, Riemann came closest of all to this idea, for he understood the relation of time to space.

A point of three-dimensional space is a section of a metageometrical line. The lines metageometry deals with cannot be generalized on any surface. This last may be of the greatest importance for the definition of the difference between geometry (both Euclidean and non-Euclidean) and metageometry. Metageometrical lines cannot be regarded as distances between points in our space; neither can we imagine them as forming any figures in our space.

The examination of the possible properties of lines lying outside our space, their angles, and the relations of these lines and angles to the lines, angles, surfaces and solids of our geometry constitutes the subject of *metageometry*.

Students of non-Euclidean geometry could not bring themselves to relinquish the surface. There is something really tragic in this. See what surfaces Lobachevsky invented in his investigations of the 11th Euclidean postulate (about parallel lines, or about angles formed by a line intersecting two parallel lines). One of his surfaces *resembles the surface of the blades of a ventilator*;* another, the inner surface of a funnel. Yet he could not bring himself to abandon the

* Roberto Bonola, *Non-Euclidean Geometry*.

surface completely, to cast it away once and for all, and imagine that a line *need not necessarily be on a surface*, i.e. that a series of lines, parallel or almost parallel, cannot be generalized on any surface, not even in three-dimensional space. This explains why, in creating non-Euclidean geometry, he, and a great many other geometers, were unable to get out of the three-dimensional world.

Mechanics recognize a *line in time*, i.e. a line which cannot in any possible way be visualized on a surface, or as the distance between two points in space. This line is taken into account in calculations dealing with machinery. But geometry never had anything to do with this line, but *always only* with its sections.

Now we may return to the question, 'what is space?' and see whether an answer to this question has been found.

An exact definition and explanation of the *three-dimensionality* of space as a phenomenon of the world would be an answer.

But there is no such answer. As an objective phenomenon, the *three-dimensionality* of space remains as mysterious and incomprehensible as before. In relation to three-dimensionality it is necessary:

either to accept it as a *datum* and add this datum to the two data we established before; or to admit the incorrectness of this whole objective method of reasoning and return to the other method, indicated at the outset.

Then, starting from the two fundamental data - *the world* and *consciousness* — it will be necessary to establish whether three-dimensional space is a *property of the world* or a *property of our perception of the world*.

Having started with Kant, who asserts that space is the *property of the perception of the world by our consciousness*, I purposely turned away from this idea and considered space as a *property of the world*.

With Hinton, I admitted the surmise that our space bears within itself the conditions which allow us to establish its relations to higher space, and on the basis of this surmise I built a whole series of analogies which made clear to us certain things about the questions of space and time and their mutual relations. But, as has already been said, they did not explain anything concerning the main question of the *causes of the three-dimensionality of space*.

The method of analogies is, on the whole, rather disheartening. It makes one walk in a vicious circle. It helps to clear some things, but does not really give a straight answer to anything. After numerous and prolonged attempts to find one's way in complex problems with the help of analogies, one begins to feel the uselessness of all one's

efforts; one feels that, with these analogies, one is merely walking alongside a wall - and then, with a feeling of complete hatred and disgust for analogies, one begins to see the necessity for seeking some direct way which will lead straight to where one needs to go.

This problem of higher dimensions has usually been tackled by means of analogies. Only very recently has science begun to work out that direct method which will be detailed later on.

So, if we wish to follow the direct road, without deviating from it, we must rigidly adhere to Kant's fundamental propositions. But if we formulate Hinton's thought from the point of view of these propositions, we shall get the following result: we bear in ourselves the conditions of our space and therefore must find in ourselves the conditions which will enable us to establish the relation between our space and higher space.

In other words, it is in our mentality, in our perceiving apparatus, that we must find the conditions of the world's three-dimensionality. And it is also there that we must discover the conditions of the possibility of a higher-dimensional world.

If we set ourselves this task, we shall find we are on the direct road, and we should be able to get an answer to our question; what is space and its three-dimensionality?

How are we to approach the solution of this problem?

Quite clearly, through the study of our consciousness and its properties. We shall be free of all analogies and start on the right and direct road towards the solution of the main problem of the subjective or objective character of space, if we decide to examine the mental forms in which we perceive the world, and see whether there is a correspondence between them and the three-dimensional extension of the world. In other words, we must see whether this idea of the three-dimensional extension of the world with its properties is not the outcome of certain properties of our own mentality.

CHAPTER 8

Our perceiving apparatus. Sensation. Representation. Concept. Art as the language of the future. To what extent does the three-dimensionality of the world depend on the properties of our perceiving apparatus? What could prove this dependence? Where could we find a real confirmation of this dependence? Psychology of animals. In what does it differ from the human? Reflex. Irritability of the cell. Instinct. Pleasure - pain. Emotional thinking. Absence of concepts. Language of animals. Logic of animals. Different levels of intelligence in animals. The goose, the cat, the dog and the monkey.

In order to find out the exact relation of our inner life to the outer world and to define *what* in our perception of the world belongs to the world and *what* belongs to ourselves, we must turn to elementary psychology and examine the mechanism of our perceiving apparatus.

The basic unit of our perception is a *sensation*. A sensation is an elementary change in the state of our inner life, produced, *or so it appears to us*, either by some change in the state of the outer world in relation to our inner life, or by a change in our inner life in relation to the outer world. So physics and psycho-physics teach us. I shall not deal here with the question of the correctness or incorrectness of the interpretations advanced by these sciences. It is sufficient to define a sensation as an *elementary* change in the state of the inner life, i.e. as the element, or the basic unit of this change. Experiencing a sensation, we assume it to be, so to speak, a reflection of some kind of change in the external world.

The sensations experienced by us leave a certain trace in our memory. In accumulating, memories of sensations begin to blend in our consciousness into groups according to their similarity, to become associated, to be put together, or to be contrasted. Sensations, usually experienced in close connection with one another, will arise in our memory preserving the same connection. And gradually, out of *memories of sensations* there are formed *representations*. Representations are, so to speak, group memories of sensations. In the formation of representations, the grouping of sensations follows two clearly denned directions. The first direction is according to the *character of the sensations*: thus sensations of yellow colour will be linked with

other sensations of yellow colour, sensations of acid taste, with other sensations of acid taste. The second direction is according to the *time of receiving the sensation*. When one group, forming *one* representation, contains different sensations experienced simultaneously, the memory of this definite group of sensations is attributed to a common cause. The 'common cause' is projected into the external world, as the object; and it is assumed that the given representation reflects the real properties of this object. Such a group memory constitutes a *representation*, as, for instance, the representation of a tree - *this tree*. Into this group enters the green colour of the leaves, their smell, their shade, the sound of the wind in the branches, and so on. All these things, taken together, form, as it were, the focus of rays emitted by our mind and gradually focused on the external object, which may coincide with it either badly or well.

In the further complexities of mental life, memories of representations undergo the same process as memories of sensations. In accumulating, memories of representations or 'images of representation' become associated along the most varied lines, are put together, contrasted, form groups and, in the end, give rise to concepts.

Thus, out of the various sensations experienced at different times (in groups), there arises in a child the representation of a tree (*this tree*), and later, out of the images of representation of different trees is formed the *concept of a tree*, i.e. not of this particular tree but of a tree in general.

The formation of concepts leads to the formation of *words* and the appearance of *speech*.

The rudiments of speech may appear on the lowest level of intelligence, at the stage of living by sensations; at the stage of living by representations speech becomes considerably more complex. But, so long as there are no concepts, it will not be *speech* in the true sense of the word.

On the lower levels of intelligence certain sensations may be expressed by certain sounds. In this way it is possible to transmit general impressions of fear, anger, pleasure. These sounds may serve as danger signals, as a summoning call, an entreaty, a threat and so on. But one cannot convey much by them.

In the subsequent development of speech, if words or sounds express *representations*, as in the case of children, it means that a given sound or a given word designates only *this or that* particular object. For every new similar object there must be a *new* sound or a

new word. If the speaker designates *different* objects by the same word or sound, it means either that, in his opinion, it is one and the same object, or that he calls by the same name objects *known* to be different. In either case it is very difficult to understand him. And speech of this kind cannot serve as an example of clear speech. For instance, if a child calls a tree by a certain sound or word, having in mind only *that tree*, and being in complete ignorance of other trees, then any new tree he sees he will call by another word, or he will take it for the same tree. The speech in which 'words' correspond to representations, consists, as it were, of proper names; it has no generic nouns yet. Moreover, not only nouns, but verbs, adjectives and adverbs also have the character of 'proper names', i.e. names applicable only to the *given* action, the *given* quality, the *given* characteristic.

The appearance of words of *general meaning* indicates the appearance of concepts in the mind.

Speech consists of words; every word expresses a concept. A concept and a word are really the same thing, only the one (the concept) stands, as it were, for the inner aspect, while the other (the word) for the outer aspect. Or, according to Dr Bucke (the author of the book *Cosmic Consciousness* about which I shall have much to say later), *the word*, (i.e. *the concept*) is the *algebraic* sign of a thing.

It has been noticed thousands of times that the brain of a thinking man does not exceed in size the brain of a non-thinking wild man in anything like the proportion in which the mind of the thinker exceeds the mind of the savage. The reason is that the brain of Herbert Spencer has very little more work to do than has the brain of a native Australian, for this reason, that Spencer does all his characteristic mental work by signs or counters which stand for concepts, while the savage does all or nearly all his by means of cumbersome receipts. The savage is in a position comparable to that of an astronomer who makes his calculations by arithmetic, while Spencer is in the position of one who makes them by algebra. The first will fill many great sheets of paper with figures and go through immense labour; the other will make the same calculations on an envelope and with comparatively little mental work.*

In our speech words express concepts or ideas. Ideas are broader concepts; they are not a group sign for similar representations, but embrace groups of dissimilar representations, or even *groups of concepts*. Thus an idea is a complex or an abstract concept.

In addition to the simple sensations of the sense organs - colour, sound, touch, smell and taste; in addition to simple emotions of

* R. M. Bucke, *Cosmic Consciousness, a Study in the Evolution of the Human Mind*, Innes & Sons, Philadelphia, 1905, p. 12.

pleasure, displeasure, joy, fear, surprise, astonishment, curiosity, laughter, anger and many others, there proceed in our consciousness series of complex sensations and higher (complex) emotions - moral emotion, aesthetic emotion and religious emotion. The content of emotional experiences, even of the simplest, to say nothing of those which are complex, can never be wholly fitted into concepts or ideas and, therefore, can never be correctly and exactly expressed in words. Words can only hint at it or lead to it. The interpretation of emotional experiences and *emotional understanding* is the aim of *art*. In the combination of words, in their meaning, in rhythm, in music, in the combination of meaning, rhythm and music; in sounds, in colours, in lines, in forms - men create a new world and try to express in it that which they feel but cannot express and convey simply in words, i.e. in concepts. The emotional tones of life, i.e. the 'feelings' are best expressed in music. On the other hand, music is utterly incapable of expressing concepts, i.e. thoughts. Poetry aims at expressing the two together. The combination of feeling and thought of high intensity leads to a higher form of inner life, difficult to define in ordinary language. Thus, in art we already find the first experiments in a *language of the future*. Art marches in the vanguard of inner evolution, anticipating the forms it is to assume tomorrow.

At the present moment an average man, taken as a standard, has three units of mental life - *sensation*, *representation* and *concept*. Observation further shows us that in some people at certain moments there appears, as it were, a fourth unit of mental life, which different authors and schools call by different names, but in which the element of perception or the element of ideas is always connected with the emotional element.

If Kant's idea is true, if space with its characteristics is a property of our consciousness and not a property of the external world, then the three-dimensionality of the world must in some way be dependent on the constitution of our mental apparatus.

Concretely, the question may be put in this way: What is the relation of the three-dimensional extension of the world to the fact that our mental apparatus contains sensations, representations and concepts, and that they stand exactly in this order?

We have a mental apparatus *of this kind* and the world is *three-dimensional*. How to prove that the three-dimensionality of the world depends on this particular constitution of our mental apparatus?

To prove or refute this *conclusively* would be possible only through experience.

If we were able to *alter our mental apparatus* and observe that *the*

world around us changed with these alterations, this would prove to us the dependence of the properties of space on the properties of our mind.

For instance, if the above-mentioned higher form of inner life, which now appears only accidentally, as it were, depending on some little-known conditions, could be rendered as definite, as precise, *as obedient to our will* as a concept, and if, through this, the number of characteristics of space increased, i.e. if space, instead of being three-dimensional, became four-dimensional, this would confirm our supposition and prove Kant's idea that space with its properties is *the form of our sense-perception*.

Or, if we could reduce the number of units of our mental life and deliberately deprive ourselves or some other man of *concepts*, leaving his or our mind to operate by representations and sensations alone; and if, through this, the number of characteristics of the space surrounding us diminished, i.e. if for that man the world were to become two-dimensional instead of three-dimensional and, with a further limitation of his mental apparatus, i.e. with depriving him of representations, it were to become one-dimensional, this would confirm our surmise and Kant's thought could be regarded as proved.

Thus, Kant's idea could be proved *experimentally* if we were able to ascertain that for a being possessing nothing but sensations the world is one-dimensional; for a being possessing sensations and representations it is two-dimensional; and for a being possessing, in addition to concepts and ideas, also higher forms of perception, the world is four-dimensional.

To be more exact, Kant's proposition regarding the subjective character of the idea of space could be taken as proven, (a) if for a being possessing nothing but sensations, our entire world with all its variety of forms appeared as *one line*, if the universe of this being had one dimension, i.e. if this being were one-dimensional by virtue of the properties of his perception; and (b) if for a being possessing the capacity of forming representations in addition to his ability of experiencing sensations, the world had a two-dimensional extension, i.e. if our entire world with its blue skies, clouds, green trees, mountains and precipices, appeared to him merely as a plane; if the universe of this being had only two dimensions, that is, if this being were *two-dimensional* by virtue of the properties of his perception.

More briefly, Kant's proposition would be proved if we saw that for a given subject the number of characteristics of the world changed according to the change of his mental apparatus.

It does not seem possible to carry out such an experiment of

reducing mental characteristics, for we do not know how to restrict our own or someone else's mental apparatus with the ordinary means at our disposal.

Experiments of *augmenting* mental characteristics exist but, for many different reasons, they are not sufficiently convincing. The main reason is that an increase of mental faculties produces in our inner world so much that is new, that this *new* masks any *changes* which take place simultaneously in our usual perceptions of the world. We feel the new but cannot exactly define the difference.

A whole series of teachings and religious and philosophical doctrines have as their professed or hidden aim precisely this *expansion of consciousness*. This is the aim of *mysticism* of all times and all religions, the aim of *occultism*, the aim of the *Eastern Yoga*. But the question of the expansion of consciousness requires special study; the last chapters of this book are devoted to it.

In the meantime, in order to prove the contention stated above about the change of the world as a result of a change in the mental apparatus, it is sufficient to examine the hypothesis about the possibility of a lesser number of mental characteristics.

If we do not know how to carry out experiments in this direction, perhaps observation is possible.

We must ask ourselves the question: Are there in the world beings whose mental life is below ours *in the required sense*?

Such beings, whose mental life is below ours, undoubtedly exist. They are animals.

We know very little about what constitutes the difference between the mental processes of an animal and the mental processes of a man;

our ordinary 'conversational' psychology is altogether ignorant of it. As a rule we entirely deny the existence of reason in animals, or, on the contrary, we ascribe to them our own psychology, but 'limited' - though *how* and *in what respect* it is limited, we do not know. And then we say that an animal has no reason but has instinct. But we have a very hazy idea of what *instinct* may mean. I am speaking now not only of popular but also of 'scientific' psychology.

Let us, however, try to examine what instinct is and what animal mentality is like. In the first place, let us examine the *actions* of an animal and determine in what way they differ from ours. If they are instinctive actions, what does it mean?

What actions are there in general and what is the difference between them?

We distinguish in living beings reflex actions, instinctive actions, rational actions, automatic actions.

Reflex actions are simply *responses by motion*, reactions to external irritations, always occurring in the same manner, irrespective of their usefulness or uselessness, expediency or in expediency in a given instance. Their origin and laws are the outcome of the simple *irritability of the cell*.

What is meant by irritability of the cell and what are these laws?

By irritability of the cell is meant its capacity to respond by motion to external irritations. Experiments with the simplest living one-cell organisms proved that *irritability* is governed by strictly definite laws. The cell responds by motion to an external irritation. The force of the responsive motion is increased with the increase of the force of irritation, but it has not been possible to establish the exact ratio. In order to provoke a responsive motion, the irritation must be sufficiently strong. Every irritation experienced leaves a *certain trace* in the cell, rendering it more susceptible to further irritations. This is proved by the fact that to a *repeated* irritation of an *equal force* the cell responds with a stronger movement than to the first irritation. And, if irritations are further repeated, the cell will respond to them with an increasingly stronger motion, up to a certain limit. Having reached this limit, the cell becomes *tired*, as it were, and begins to respond to the same irritation by increasingly weaker reactions. The cell appears to become used to the irritation. It becomes for the cell part of its *permanent surroundings* and the cell ceases to react to it, for it reacts only to *changes* in the permanent conditions. If from the very beginning the irritation is too weak to produce a responsive motion, it still leaves a *certain invisible* trace in the cell. This is shown by the fact that, by repeating weak irritations, it is possible to make the cell react to them.

Thus in the *laws of irritability* we see what seem to be the rudiments of the capacities of memory, fatigue and habit. The cell produces the illusion of a *being*, which, if not conscious and reasoning, is at least capable of remembering, capable of forming habits and of getting tired. If we are almost deceived by a cell, how much easier it is for us to be deceived by an animal with its complex life.

But let us return to our analysis of *actions*. By reflex actions of an organism are meant actions where the whole organism or its separate parts act *as the cell does*, i.e. within the limits of the law of irritability. We observe such actions both in man and in animals. A shudder runs through a man from sudden cold or from an unexpected touch. He blinks if some object quickly approaches or touches him. If a man sits with his leg hanging loosely, his foot jerks forward if the tendon immediately below the knee is hit. These movements happen in-

dependently of consciousness and may happen even contrary to consciousness. As a rule consciousness perceives them as an already accomplished fact. And these movements need not necessarily be expedient. The foot will jerk forward if the tendon is hit even if there is a knife or fire in front of it.

By instinctive actions are meant actions which are expedient but performed without any consciousness of *choice* or consciousness of *purpose*.

They arise with the appearance of an emotional quality in a sensation, i.e. from the moment when the feeling of pleasure or pain becomes connected with the sensation.

And indeed, before the appearance of human intellect, 'actions' in all the animal kingdom are governed by the tendency to obtain or keep pleasure, or to avoid pain.

We may say with the utmost certainty that instinct is *pleasure-pain* which, like the positive and negative poles of an electro-magnet, repels and attracts an animal in one or another direction, thus forcing it to perform a whole series of complicated actions, at times so expedient as to appear conscious; and not only conscious, but based on a foresight of the future almost bordering on clairvoyance, such as the migration of birds, the building of nests for the young still unborn, the finding of the way south in the autumn and north in the spring, and so on.

But in actual fact all these actions are explained solely by instinct, i.e. by subordination to *pleasure-pain*.

In the course of periods in which thousands of years may be counted as days, there was evolved in all animals, through selection, a type which lives according to this subordination. This subordination is expedient, i.e. its results lead to the *required* aim. It is quite clear why this is so. If the feeling of pleasure proceeded from something harmful, a given species could not live and would soon die out. Instinct is the guiding factor of its life; but only so long as instinct is expedient. As soon as it ceases to be expedient, it becomes the guiding factor of death, and the species very soon dies out. Normally, 'pleasure-pain' is pleasant and unpleasant not *for* the usefulness or the harm it brings, but *as a consequence* of it. Influences which had proved *useful* to a given species during its vegetable life begin to be experienced as *pleasant* with the transition to animal life; harmful influences are experienced as unpleasant. One and the same influence - say a certain temperature - may be useful and pleasant for one species and harmful and unpleasant for another. It is clear, therefore, that subordination to 'pleasure-pain' should be expedient. The

pleasant is *pleasant* because it is *useful*; the unpleasant is *unpleasant* because it is *harmful*.

The next stage after instinctive actions consists of rational and automatic actions.

By rational action is meant an action known to the acting subject *before it is performed* — an action which the acting subject can name, define, explain and whose cause and purpose he can point out *-before it has taken place*.

By automatic actions are meant actions which have been rational for a given subject but have since become customary and unconscious through frequent repetition. The automatic actions learned by trained animals were previously rational not in the animal but in the trainer. Such actions often seem quite rational, but this is pure illusion. The animal remembers the order of actions and so its actions appear to be thought out and expedient. And it is true they were thought out, *but not by it*. Automatic actions are often confused with instinctive actions; and indeed they do resemble the instinctive, but at the same time there is an enormous difference between them. Automatic actions are created by the subject in the course of his own life. And, before becoming automatic, they must for a long time remain rational for him or for another person. Instinctive actions are created during the lifetime of a *species* and the capacity to perform them is handed down, in a ready-made form, through heredity. Automatic actions *may* be called the instinctive actions which a given subject has evolved for himself. Instinctive actions *cannot* be called automatic actions evolved by a given species, because they *never were* rational for separate individuals of that species, but are the result of a complex series of reflexes.

Reflexes, instinctive actions and 'rational' actions may be regarded as reflected, i.e. as not independent. The first, the second and the third come not from man himself but from the external world. A man is merely a transmitting or transforming station of forces; all his actions *belonging to these three categories* are produced by impressions coming from the external world. In these three kinds of actions man is actually an automaton, either unaware or aware of his actions. Nothing comes from himself.

Only the highest category of actions, i.e. conscious actions (which, generally speaking, we do not observe, since we confuse them with rational actions, mainly because we call 'rational' actions conscious) -only these actions depend not only on the impressions coming from the external world, but on something else besides. But the capacity for such actions is very rarely met with and only very few people have

it. These people may be defined as the HIGHER TYPE OF MAN.

Having established the difference between actions, we must now return to the question: *How does the mental apparatus of an animal differ from that of a man?* Of the four categories of actions only the two lower ones are accessible to animals. The category of 'rational' actions is not accessible to them. This is proved, first of all, by the fact that animals do not speak as we do.

It was shown earlier that the possession of speech is indissolubly connected with the possession of concepts. Consequently, we may say that animals do not possess concepts.

Is this true, and is the possession of instinctive reason possible without possessing concepts?

All that we know about instinctive reason tells us that it operates while possessing only representations and sensations, and on the lower levels possessing only sensations. The mental apparatus which thinks by means of representations must be identical with instinctive reason which enables it to make that *selection* from among the available representations which, from outside, produces the impression of reasoning and drawing conclusions. In reality, an animal does not think out its actions, but lives by emotions, obeying the emotion which is strongest at a given moment. Although it is true that in the life of an animal there may be very acute moments, when it is faced with the necessity of making a *selection* from a certain series of representations. In that case, at a given moment, its actions may appear to be reasoned out. For instance, an animal, faced with danger, often acts with surprising caution and intelligence. But in reality the actions of an animal are governed not by thoughts but mostly by emotional memory and motor representations. It has been shown earlier that emotions are expedient and, in a normal being, obedience to them should also be expedient. In an animal, every representation, every remembered image is connected with some emotional sensation and emotional recollection; there are no *unemotional* cold thoughts or images in the nature of an animal. Or, if there are some, they are inactive, incapable of moving it to any action.

Thus, all the actions of animals, at times very complex, expedient and seemingly rational, can be explained without assuming the existence in them of concepts, reasoning and mental conclusions. On the contrary, we must admit that animals *have no concepts*. The proof of this is that they have no speech.

If we take two *men* of different nationalities, different races, each ignorant of the language of the other, and settle them to live together, they will immediately find means of communicating with each other.

One would draw with his finger a circle, the other would draw another circle alongside the first. This is enough to establish that they can understand one another. If a thick stone wall were to separate people, again it would not deter them. One would knock three times; the other would also knock three times in reply - communication is established. The idea of communication with the inhabitants of another planet is based precisely on the system of light signals. On the earth it is proposed to make an enormous luminous circle or square. It should be noticed on Mars or somewhere over there and should be answered by a similar signal. With animals we live side by side, yet we are unable to establish such communication with them. Evidently, the distance between us is greater, the difference deeper than between *people* separated by ignorance of language, stone walls and enormous distances.

Another proof of the absence of concepts in an animal is its incapacity of using a lever, i.e. its incapacity of arriving independently at an understanding of the significance and the action of a lever. The usual argument that an animal does not know how to use a lever simply because its organs - paws, etc. - are not adapted for such actions, does not bear criticism, because any animal can be *taught* to use a lever. This means that organs have nothing to do with it. The thing is simply that *by itself* an animal cannot arrive at the idea of a lever.

The invention of a lever at once separated primitive man from the animals and it was inseparably connected with the appearance of concepts. The mental side of *understanding the action of a lever* lies in the construction of a correct syllogism. Without mentally constructing a syllogism it is impossible to understand the action of a lever. Without concepts it is impossible to construct a syllogism. In the mental sphere a syllogism is literally the same thing as a lever in the physical sphere.

The application of a lever distinguishes man from the animal as drastically as does speech. If some Martian scientists were to look at the earth and study it objectively through a telescope, not hearing speech from afar nor entering into the subjective world of the inhabitants of the earth and without any contact with it, they would divide the beings living on the earth into two categories: those familiar with the action of a lever and those unfamiliar with it.

On the whole the psychology of animals is very obscure to us. The infinite number of observations made of all animals, from elephants to spiders, and the infinite number of anecdotes about the intelligence, perspicacity and moral qualities of animals change nothing in

this respect. We represent animals either as living automatons or as stupid human beings.

We are too shut up in the circle of *our own* mentality. We have no idea of any other mentality and involuntarily we think that the only kind of mentality possible is the one we possess. But this is an illusion which prevents us from understanding life. If we were able to enter into the inner world of an animal and understand *how* it perceives, understands and acts, we would see many extremely interesting things. For example, if we could represent to ourselves and re-create mentally the *logic* of the animal, it would greatly help us to understand our own logic and the laws of our thinking. Above all we would understand the conditional and relative character of our whole idea of the world.

An animal must have a very peculiar logic. Of course, it would not be logic in the true sense of the word, for logic presupposes the existence of *logos*, i.e. word or concept.

Our usual logic, the one we live by, without which 'the cobbler will not be able to make shoes' can be brought down to the simple scheme formulated by Aristotle in those writings which were published by his pupils under the general title of *Organon*, i.e. the 'Instrument' (of thought). This scheme consists in the following:

A is A.

A is not not-A.

Everything is either A or not-A.

The logic contained in this scheme - Aristotle's logic - is quite sufficient *for observation*. But *for experiment* it is insufficient, for experiment, takes place *in time*, whereas Aristotle's formulae do not take time into account. This was observed at the very dawn of the establishment of our experimental knowledge; it was noted by Roger Bacon and, some centuries later, was formulated by his famous namesake, Francis Bacon, in the treatise *Novum Organum* — 'New Instrument' (of thought). Briefly Bacon's formulation may be reduced to the following:

That which was A, will be A.

That which was not-A, will be not-A.

Everything was and will be either A or not-A.

All our scientific experience is built on these formulae, whether they are taken or not taken into account by our mind. And these same formulae actually serve as a basis for making shoes, for if a cobbler could not be sure that the leather bought yesterday would be leather

tomorrow, he would probably not venture to make shoes but would look for some other more secure profession.

Logical formulae, both those of Aristotle and Bacon, are simply deduced from observation of facts and embrace nothing but the contents of these facts - and can embrace nothing more. They are not laws of *thinking* but merely laws of the external world as it is perceived by us, or laws of our relationship to the external world.

If we were able to represent to ourselves the 'logic' of an animal, we would understand its relationship to the external world. Our chief mistake as regards the inner world of an animal lies in our ascribing to it our own logic. We think that *there is only one logic*, that our logic is something absolute, something existing outside us and apart from us. Yet, in actual fact, it is merely the laws of the relation of our inner life to the outside world or the laws which our mind finds in the outside world. A different mind will find different laws.

The first difference between our logic and that of an animal is that the latter is not *general*. It is a particular logic in every case, for every separate representation. For animals there exists no classification according to common properties, i.e. classes, varieties and species. Every single object exists by itself, all its properties are specific properties.

This house and *that* house are for an animal totally different objects, because the one is *his* house and the other an *alien* house. Generally speaking, we recognize objects by their similarity; an animal must recognize them by their differences. It remembers every object by the signs which have had for it the greatest emotional significance. In this form, i.e. with emotional qualities, representations are preserved in the memory of an animal. It is easy to see that it is much more difficult to preserve such representations in memory; consequently the memory of an animal is much more burdened than ours, although in the amount of knowledge and the number of things preserved in the memory an animal is far below us.

Having once seen an object, we refer it to a certain class, variety and species, attach it to one or another concept and connect it in our mind with one or another 'word', i.e. with an algebraic sign, then with another, defining it, and so on.

An animal has no concepts, it has no mental algebra with the help of which we think. It must know *a given object* and remember it with all its characteristics and peculiarities. Not a single forgotten characteristic will come back. But for us the main characteristics are implied in the concept with which we have connected the given object, and we

can find it in our memory by any of its characteristic signs.

It is clear from this that an animal's memory is more burdened than ours and that *this is precisely* the main cause which hinders the mental evolution of an animal. Its mind is *too* occupied. It has *no time* to move forward. It is possible to arrest the mental development of a child by making it learn by heart series of words and series of figures. An animal is exactly in the same position. And this explains the strange fact that an animal is *more intelligent when young*.

In a man the peak of his intellectual power is reached at a mature age, very often even in old age; in the case of an animal it is just the reverse. It is *receptive* only while it is young. With maturity its development becomes arrested and in old age it undoubtedly becomes retrogressive.

The logic of an animal, if we attempt to express it in formulae similar to those of Aristotle and Bacon, would be as follows.

The animal will understand the formula *A is A*. It will say: I am I, and so on. But it will not understand the formula *A is not not-A*, for *not-A* is a *concept*. The animal will say:

This is this. That is that.

This is not that.

or

*This man is this man. That man is
that man. This man is not that man.*

Later on I shall have to return to the logic of animals. For the moment it was only necessary to establish the fact that the psychology of animals is very distinctive and fundamentally different from ours. And it is not only distinctive but also very *varied*.

Among the animals known to us, even among domestic animals, psychological differences are so great as to put them on totally different levels. We do not notice this and put them all under one head - '*animals*'.

A goose has put its foot on a piece of watermelon rind, pulls at it with its beak but cannot pull it out, and it never occurs to it to lift its foot off the rind. This means that its mental processes are so vague that it has a very imperfect knowledge of its own body and does not properly distinguish it from other objects. This could not happen either with a dog or a cat. They know their bodies perfectly well. But in their relations to outside objects a dog and a cat are very different.

I have observed a dog, a 'very intelligent' setter. When the little rug on which he slept got rucked up and became uncomfortable to lie on, he understood that the discomfort was *outside him*, that it was in the rug and, more precisely, in the position of the rug. So he kept on worrying the rug with his teeth, twisting it and dragging it here and there, all the while growling, sighing and groaning until someone came to his assistance. But he could never manage to straighten out the rug by himself.

With a cat such a question could never even arise. A cat knows its body perfectly well, but everything *outside itself* it takes for granted, as something given. To *correct* the outside world, to accommodate it to its own comfort, would never occur to a cat. Maybe this is so because a cat lives more in another world, the world of dreams and fantasies, than in this one. Therefore, if there were something wrong with its bed, a cat would itself turn and twist a hundred times until it could settle down comfortably; or it would go and settle down in another place.

A monkey would of course spread out the rug quite easily.

Here are *four* beings, all quite different. And this is only one example of which one could easily find hundreds. And yet for us all this is *an animal*. We mix together many things that are totally different; our divisions are very often wrong and this hinders us in our examination of ourselves.

Moreover it would be quite incorrect to assert that the differences mentioned determine 'evolutionary stages', that animals of one type are *higher* or *lower* than others. The dog and the monkey by their *reason*, their ability to imitate and (the dog) by his fidelity to man seem to be higher than the cat, but the cat is infinitely superior to them in its intuition, its aesthetic sense, its independence and willpower. The dog and the monkey manifest themselves in their entirety. All that there is in them can be seen. But it is not without cause that the cat is regarded as a magical and occult animal. There is much in it that is hidden, much that it does not itself know. If one is to speak in terms of evolution it would be much more correct to say that these are animals of different evolutions, just as, in all probability, not one but several evolutions go on in mankind.

The recognition of several independent and, from a certain point of view, equivalent evolutions, developing entirely different properties, would lead us out of the labyrinth of endless contradictions in our understanding of *man* and would show the way to the understanding of the only real and important evolution for us, the evolution towards superman.

CHAPTER 9

Perception of the world by man and by animals. Illusions of animals and their lack of control over perceptions. A world of moving planes. Angles and curves as motion. Third dimension as motion. The two-dimensional appearance, for animals, of our three-dimensional world. Animals as real two-dimensional beings. Lower animals as one-dimensional beings. Time and space of a snail. Time-sense as a nebulous space-sense. Time and space of a dog. Change of the world with a change of the mental apparatus. Proof of Kant's problem. Three-dimensional world as an illusory representation.

We have established the tremendous difference which exists between the mentality of man and that of animals. This difference is bound to have a deep effect on the animal perception of the external world. But *how* and *in what*? This is precisely what we do not know and what we must endeavour to establish.

To do this we must return once more to *our* perception of the world and examine *in detail* how we perceive it; and then we must see how the world must be perceived by the animal with its limited mental equipment.

First of all we must take note of the fact that, as regards the external aspect and form of the world, our perception is extremely incorrect. We know that the world consists of solids, but we always see and touch *only surfaces*. We never see or touch *a solid*. A solid is already *a concept*, made up of a number of representations put together by means of reasoning and experience. For direct sensation only surfaces exist. Sensations of weight, mass, volume, which we mentally associate with a 'solid', are in reality connected for us with sensations of surfaces. We only *know* that this sensation of surfaces comes from a solid, but we never sense the solid itself. Maybe it is possible to call the composite sensation of surfaces, weight, mass, density, resistance and so on - 'sensation of a solid'. But we are obliged *mentally* to bind all these sensations into one and to call this general sensation - a solid. We sense directly only surfaces, and then, *separately*, weight;

we never sense the resistance of a solid, as such.

But we *know* that the world does not consist of surfaces, we know that we see the world incorrectly. We know that we *never* see the

world *as it really is*, not only in the philosophical sense of this expression, but even in the most ordinary *geometrical* sense. We have never seen a *cube*, a *sphere*, etc., we have always seen only surfaces. Realizing this, we mentally correct what we see. Behind the surfaces we *think* the solid. But we can never represent a solid to ourselves; we cannot represent a cube or a sphere not in perspective, but from all sides at once.

It is clear that the world does not exist in perspective; yet we are unable to see it in any other way. We see everything only in perspective, i.e. in perceiving it, we distort the world with our eye. And we know that we distort it. We know that it is not as we see it. And mentally we continually *correct* what the eye sees, *substituting* the real content for those symbols of things which our sight shows us.

Our sight is a complex faculty. It consists of visual sensations, *plus* the memory of sensations of touch. A child tries to touch everything he sees - the nose of his nurse, the moon, the dancing spot of reflected sunlight on the wall. He learns only gradually to distinguish between the near and the far *by sight alone*. But we know that even in mature years we are easily subject to optical illusions.

We see distant objects as flat, i.e. even more incorrectly, for relief is, after all, a symbol indicating a certain property of objects. At a great distance a man is outlined for us in silhouette. This happens because at long range we can never touch anything, and our eye has not been trained to notice the differences in surfaces which, at close range, are felt by the fingertips.*

We are never able to see even a small bit of the external world as it is, i.e. *such as we know it to be*. We can never see a writing desk or a cupboard *simultaneously from all sides, as well as inside*. Our eye distorts the external world in a certain way to enable us, in looking about, to determine the position of objects relatively to ourselves. But

* In this connection, observations made on the blind beginning to see are very interesting.

The periodical *Slepetz* ('The Blind Man') 1912, contains a description, based on direct observation, of how men, blind from birth, *learn to see after an operation* which has restored their sight.

This is how a youth of seventeen describes his experiences after the restoration of his sight by the removal of a cataract. On the third day after the operation he was asked what he saw; he replied that he saw a vast expanse of light with dim objects moving in it. He did not distinguish these objects. Only after four days did he begin to distinguish them, and only after two weeks, when his eyes became used to the light, did he begin to make a practical use of his sight for the discernment of objects. He was shown all the colours of the spectrum and very quickly mastered them, except the yellow and the green which he kept on confusing for a long time. A cube, a sphere and a pyramid, placed before him, seemed to him a square, a flat disc and a triangle. When a flat disc was placed next

to look at the world *not from our own point of view* is impossible for us. And we are never able to have a correct view of it, a view not distorted by our eyesight.

Relief and perspective - these are the distortions of the objects by our eye. They are an optical illusion, a visual deception. A cube in perspective is only a conventional symbol of a three-dimensional cube. And everything we see is only a conventional image of that conventionally real three-dimensional world which our geometry studies - and not the real world itself. On the basis of what we see, we must guess what it really is. We know that what we see is incorrect, and we think of the world as being different from the way we see it. If we had no doubts about the correctness of our sight, if we knew that the world was such as we saw it, it stands to reason that we would think of it as we see it. In practice, however, we are constantly introducing corrections into what we see.

This capacity of introducing corrections in that which the eye sees necessarily implies the possession of concepts, for corrections are made by means of reasoning, which is impossible without concepts. Without this capacity of correcting what is seen by the eye we would see the world quite differently, i.e. much of what *actually exists* we would see wrongly, much of what *actually exists* we would not see at all, and we would see a great deal of what, *in reality, does not exist at all*. In the first place, we would see an enormous number of *nonexistent movements*. For direct sensation, every movement of our own is connected with the movement of everything around us. We *know* that this movement is illusory, but we *see* it as real. Objects turn round before us, run past us, outstrip one another. Houses, past which we drive slowly, turn about leisurely; if we drive fast, they turn quickly; trees suddenly spring up before us, run away and vanish.

This *apparent* animation of objects, together with dreams, provided, and still provides, the main food for the fantasy of fairy-tales.

to the sphere, he could not see any difference between them. When asked to describe his first impression of the two figures, he answered that he noticed at once the difference between the cube and the sphere and realized that they were not drawings, but could not derive from them the representation of a square and a circle, until he felt in his fingertips the same sensation as though he had touched a square and a circle. When he was allowed to handle the cube, the sphere and the pyramid, he immediately identified these solids by touch and was very surprised at not having recognized them at once by sight. He had as yet no representation of space, of perspective. All objects appeared flat to him. Although he knew that the nose projected and the eyes were sunk in cavities, the human face also looked flat to his eyes. He was overjoyed at having his sight restored, but in the beginning looking at things tired him; impressions overwhelmed and exhausted him. This is why, while enjoying perfect sight, he at times reverted to touch, as a form of relaxation.

In those cases the 'movements' of objects may be very complex. Look at the strange behaviour of a cornfield seen through the window of your railway carriage. It runs up to your very window, stops, turns about slowly and runs to one side. The trees in the wood clearly run at different speeds, outstripping one another. A whole landscape of illusory motion! And what of the sun which still continues, in all languages, to rise and set, and the movement of which was at one time so passionately defended!

This is how it all appears to us. And although we already know that all these movements are illusory, we still *see* them and are, at times, deceived. How many more illusions we would see if we were unable mentally to unravel the causes which produce them, and were to regard everything as existing exactly as we see it?

I see it, therefore it is.

This assertion is the main source of all illusions. The right way to put it would be: *I see it, therefore it is not!* Or at any rate: *I see it, therefore it is not so!*

We can say the latter, but animals cannot. For them whatever they see - is. They have to believe what they see.

How does the world appear to animals?

For animals the world is a series of complex moving surfaces. Animals live in a *two-dimensional* world; their universe has the appearance and properties of a *surface*. And on this surface there take place a vast number of movements of the most varied and fantastic character.

Why should the world appear as a surface to animals?

First of all, because it appears as a surface *to us*.

But we *know* that the world is not a surface, whereas animals cannot know it. They accept everything as it appears. They cannot correct what the eye sees, or cannot do so to the same degree as we can.

We can measure in three directions; the quality of our mind enables us to do so. Animals can measure simultaneously only in two directions; they can never measure in three directions at once. This is due to the fact that, having no concepts, they are incapable of keeping in mind the measurements of the first direction while measuring the second and third.

I will explain this more clearly.

Let us imagine ourselves measuring a *cube*. In measuring a cube in three directions, we must, while measuring in one direction, keep in mind, *remember*, the two others. But things can only be kept in mind as concepts, i.e. we can remember them only by connecting them with various concepts, by labelling them in one or another way.

Thus, having labelled the first two directions - *length* and *breadth*, it is possible to measure the *height*. Otherwise it could not be done. As *representations* the first two measurements of a cube are absolutely identical and are bound to merge in our mind into one. An animal has no concepts, so it cannot label the first two measurements of the cube as length and breadth. Therefore, at the moment when it begins to measure the height of the cube, the first two measurements will merge into one. An animal measuring a cube and possessing no concepts but only representations, will resemble a cat I once observed. She dragged her kittens - there were five or six of them - into different rooms and could not collect them together again. She would get hold of one, carry it over to another and put them side by side. Then she would start looking for the third, bring it along and place it with the other two. Then immediately she would seize the first, carry it to another room and put it there beside the fourth; then she would again run to the first room, catch hold of the second and drag it somewhere else to the fifth, and so on. For a whole hour the cat struggled with her kittens, genuinely harassed, but could do nothing. Clearly she had no concepts to help her remember how many kittens there were in all.

It is extremely important to explain to oneself an animal's relationship to the measurement of solids.

The whole point is that animals see nothing but surfaces. (This we can say with the utmost conviction, since we ourselves see nothing but surfaces.) Seeing only surfaces, animals can represent to themselves only two dimensions. The third dimension, side by side with the first two, can only be *thought*, i.e. this dimension must be a concept. But animals have no concepts; the third dimension appears also as a representation. Consequently, at the moment of its appearance, the first two representations invariably merge into one. Animals see the difference between two dimensions, but cannot see the difference between *three*. This difference can only be *known*. And in order to know that, concepts are necessary.

For animals identical representations are bound to merge into one, just as for us two simultaneous, identical phenomena taking place at one point must merge into one. For animals it would be *one phenomenon*, just as for us all identical, simultaneous phenomena taking place at one point are *one phenomenon*.

Thus animals will see the world as a surface, and will measure this surface only in two directions.

How then to explain the fact that, living in a two-dimensional world, or seeing themselves in a two-dimensional world, animals

orientate perfectly well in our three-dimensional world? How to explain that a bird flies up and down, straight ahead and sideways, in all three directions; that a horse jumps fences and ditches; that a dog and a cat seem to understand the properties of depth and height together with length and breadth?

In order to explain this we must return once more to the fundamental principles of animal psychology. It has been pointed out earlier that many properties of objects which we remember as the *general* properties of species and varieties, have to be remembered by animals as the *individual* properties of objects. In sorting out this enormous store of individual properties preserved in memory animals are helped by the emotional quality connected for them with each representation and each memory of a sensation.

An animal knows, say, two roads as two entirely separate phenomena having nothing in common; one phenomenon, i.e. one road consists of a series of definite representations coloured by definite emotional qualities; the other phenomenon, i.e. the other road, consists of a series of other definite representations, coloured by other qualities. We say that both the one and the other are roads, one leading to one place, the other to another. For the animal the two roads have *nothing in common*. But it remembers all the sequence of emotional qualities connected with the first road and the second road and so remembers both roads with their turnings, ditches, fences and so on.

Thus the memory of the definite properties of objects which they have seen helps animals to orientate in the world of phenomena. But, as a rule, when faced with new phenomena, animals are much more helpless than man.

Animals see two dimensions. They constantly sense the third dimension but do not see it. They sense it as something *transient*, as we sense *time*.

The surfaces which animals see possess for them many strange properties; these are, first of all *numerous and varied movements*.

It has been said already that all illusory movements must be perfectly real for them. These movements *seem* real to us also, but we *know* them to be illusory, as for instance the turning round of a house as we drive past, the springing up of a tree from round the corner, the movement of the moon among the clouds and so on.

In addition, many other movements will exist for animals which we do not suspect. Actually a great many objects, completely motionless for us - indeed *all objects* - must appear to animals as *moving*. AND IT

IS PRECISELY IN THESE MOVEMENTS THAT THE THIRD DIMENSION OF

SOLIDS WILL BE MANIFESTED FOR THEM, i.e. THE THIRD DIMENSION OF SOLIDS WILL APPEAR TO THEM AS MOTION.

Let us try to imagine how an animal perceives objects of the external world.

Let us suppose that a *large disc* is placed before an animal and, beside it, a *large sphere* of the same diameter.

Facing them directly at a certain distance, the animal will see two circles. If it starts walking round them, the animal will notice that the sphere remains a circle but the disc gradually narrows and becomes a narrow strip. As the animal continues to move round it, the strip begins to widen and gradually becomes again a circle. The sphere will not change its form as the animal moves round it, but strange phenomena will begin to occur in it as the animal draws near.

Let us try to understand how the animal will perceive the surface of the sphere as distinct from the surface of the disc.

One thing is certain - it will perceive a spherical surface *differently from us*. We perceive convexity or sphericity as a *property common to* many surfaces. Owing to the nature of its mental apparatus, the animal should perceive sphericity as an *individual property* of the given sphere. What should sphericity look like, taken as an individual property of a given sphere?

We can say with the utmost conviction that sphericity will appear to the animal as a movement of the surface it sees.

When the animal comes near to the sphere, in all probability what happens is something like this: the surface the animal sees springs into rapid motion; its centre projects forward, and all the other points begin to recede from the centre with a velocity proportionate to their distance from the centre (or the square of their distance from the centre).

This is the way in which the animal must sense a spherical surface.

It is reminiscent of the way we sense sound.

At a certain distance from the sphere the animal sees it as a plane. Approaching it and touching some point of the sphere, it sees that the relation of all the other points to that point *has changed* as compared with what it should be on a plane, as if all the other points have moved, have drawn aside. Touching another point it again sees all the other points withdrawing from it.

This property of the sphere will appear as its *motion*, as 'vibration'. And indeed the sphere will resemble a vibrating, undulating surface. In the same way *any angle* of a motionless object must appear as *motion* to the animal.

The animal can see an angle of a three-dimensional object only if it moves past it, and in that case the object will seem to have turned - a new side has appeared, and the old side has receded or moved aside. An *angle* will be perceived as a turning, a movement of the object, i.e. as something transient, *temporal*, i.e. as a change in the state of the object. Remembering the angles met with before - which the animal has *seen* as the motion of bodies - it will regard them as gone, finished, vanished, belonging to the *past*.

Of course, the animal cannot *reason* thus, but it will act as though this was its reasoning.

If the animal could think of phenomena (i.e. angles and curved surfaces) which have not yet entered its life, it would no doubt represent them to itself *only in time*. In other words, the animal could not allow them any real existence at the present moment when *they have not yet appeared*. If it could express an opinion about them, it would say that these angles *exist as a potentiality*, that they *will be*, but that *at present they are not*.

For a horse, the comer of a house past which it runs every day, is a *phenomenon which recurs in certain circumstances*, but which still *takes place only in time*; it is not a spatial and constant property of the house.

For the animal an angle must be a time-phenomenon, instead of being a space-phenomenon as it is for us.

Thus we see that the animal will perceive the properties of our third dimension as movements and will refer these properties *to time*, to the past or future, or to the present, i.e. to the moment of transition of the future into the past.

This is an extremely important point and contains the key to the understanding of our own perception of the world; consequently we must examine it in greater detail.

So far we have considered higher animals: a dog, a cat, a horse. Let us now take a lower animal - a snail for example. We know nothing about its inner life, but we may be sure that its perception is very different from ours. In all probability a snail's sensations of its surroundings are very vague. It probably feels warmth, cold, light, darkness, hunger, and *instinctively* (i.e. incited by the pleasure-pain guidance) it crawls towards the uneaten edge of the leaf it sits on and draws away from a dead leaf. Its movements are governed by *pleasure-pain*; it always advances towards the one and retreats from the other. *It always moves on one line* - from the unpleasant towards the

pleasant. And, in all probability, it knows and senses nothing except this line. This line constitutes the whole of its world. All the sensations *entering* from outside are sensed by the snail on this line of its motion. And these come to it *out of time* - from potentiality they become actuality. For a snail the whole of our universe exists in the future and the past, i.e. *in time*. Only one line exists in the present; all the rest lies in time. It is more than probable that a snail is not aware of its own movements; making efforts with its whole body it moves forward towards the fresh edge of the leaf, but it seems to it that the leaf moves towards it, coming into being at that moment, appearing out of time, as the *morning* appears to us.

A snail is a one-dimensional being.

Higher animals - a dog, a cat, a horse - are two-dimensional beings. To them space appears as a surface, *a plane*. Everything outside this plane lies for them in time.

Thus we see that a higher animal - a two-dimensional being as compared to a one-dimensional — *extracts one more dimension out of time*.

The world of a snail has one dimension - our second and third dimensions lie for it in time.

The world of a dog has two dimensions - our third dimension lies for it in time.

An animal may remember all the 'phenomena' it has observed, i.e. all the properties of three-dimensional bodies it has come into contact with, but it cannot know that that which for it is a recurring phenomenon is in reality a permanent property of a three-dimensional body - an angle, or curvature, or convexity.

This is the psychology of the perception of the world by a two-dimensional being.

For it a *new sun* will rise every day. Yesterday's sun has gone and will never recur again. Tomorrow's sun does not yet exist.

Rostand failed to understand the psychology of 'Chantecler'. The cock could not think that he *awakened* the sun by his crowing. For him the sun does not go to sleep - it recedes into the past, vanishes, is annihilated, *ceases to be*. Tomorrow, if it comes, there will be a new sun, just as for us there is a *new spring* each year. In order *to be* the sun cannot wake up; it must *come into being*, be born. An animal (if it could think without losing its characteristic psychology) could not believe in the appearance *today of* the same sun that was there *yesterday*. This is human reasoning.

For an animal a *new sun* rises every morning, just as for us a *new morning* comes every day, a *new spring* every year.

An animal is incapable of understanding that the sun is one and the same, whether today or yesterday - EXACTLY AS WE PROBABLY CANNOT

UNDERSTAND THAT THE MORNING IS ONE, AND THE SPRING IS ONE.

The motion of objects which, for us, is not illusory but real, such as the motion of a rotating wheel or a moving carriage and so on, must, for an animal, differ greatly from the motion it sees in all objects which are motionless for us - that motion in the guise of which it sees the third dimension of bodies. This first motion (i.e. motion which is also real for us) must appear to it spontaneous, *alive*.

And these two kinds of motion will be incommensurable for it.

An animal will be able to measure an angle or a convex surface, although it will not understand its true meaning and will regard it as motion. But it will never be able to measure real motion, i.e. motion which is real for us. To do this it is necessary to have *our conception of time* and measure all movements in relation to some more constant motion, i.e. compare all movements with one. As an animal has no concepts, it will not be able to do this. Therefore, movements of objects which are *real for us* will be incapable of measurement, and thus *incommensurable with* other movements which, for it, are real and capable of measurement, but for us are illusory, constituting in reality the third dimension of bodies.

The latter is inevitable. If an animal senses and measures *as motion* that which is not motion, it is clear that it cannot apply the same measure to that which is and that which is not motion.

But this does not mean that an animal cannot know the character of movements proceeding in our world and conform to them. On the contrary, we see that an animal orientates perfectly among the movements of objects of our three-dimensional world. In this it is helped by instinct, i.e. capacity, evolved through hundreds of centuries of selection, of performing expedient actions without consciousness of purpose. And an animal discriminates perfectly well between movements happening round it.

But, distinguishing between two kinds of phenomena - *two kinds of motion* - an animal is bound to explain one of them by some inner inexplicable property of objects, i.e. it will probably regard that kind of motion as the result of the *animation of* objects, and will regard moving objects *as alive*.

A kitten plays with a ball or with its own tail because the ball or the tail *runs away from it*.

A bear will fight with a beam until the beam throws him off the tree, because in the swinging beam he feels something alive and hostile.

A horse shies from a bush because the bush has suddenly turned round and waved a branch.

In the latter case the bush may not have moved at all - it was the horse that was running. But it *appeared* to move, therefore it was alive. Probably everything that moves is alive for an animal. Why does a dog bark so furiously at a passing carriage? We do not quite understand it. We do not see how a passing carriage turns, twists and grimaces in the eyes of a dog. It is full of life - the wheels, the roof, the mudguards, the seats, the passengers - all this is moving, turning. . . .

Now let us summarize our deductions.

We have established that a man possesses sensations, representations and concepts; that higher animals possess sensations and representations, and lower animals only sensations. We deduced that an animal has no concepts mainly from the fact that it has no words, no speech. We have further established that, having no concepts, animals cannot comprehend the third dimension and only see the world as a surface. In other words they have no means, no instrument, for correcting their wrong sensations of the world. Then we found that, seeing the world as a surface, animals see on this surface a great many movements non-existent for us. That is, all those properties of bodies which we regard as the properties of their three-dimensionality, must appear as *movements* to them. Thus an angle and a spherical surface must appear to them as motion of the plane. Further, we came to the conclusion that everything which, for us, belongs to the domain of the third dimension as something *constant*, animals must regard as transient occurrences happening to objects - as time-phenomena.

Thus, in all its relations to the world an animal proves to be completely analogous to the unreal two-dimensional being which we have supposed lived on a plane. The whole of our world appears to an animal as a plane through which phenomena are passing, moving according to time or in time.

So we can say that we have established the following: that with a certain limitation of the mental apparatus which perceives the external world, for a subject possessing such an apparatus the whole aspect and all the properties of the world must change. And two subjects, living side by side but possessing different mental apparatuses, must live in different worlds - the properties of the extension of the world must be quite different for them. Moreover, we have seen conditions - not artificial and invented but actually

existing in nature, i.e. the mental conditions of the life of animals -in which the world appears as a plane or even as a line.

In other words we have established that the three-dimensional extension of the world depends for us on the properties of our mental apparatus; or, that the world's three-dimensionality is not its own property, but merely the property of *our* perception of the world.

To put it differently, the three-dimensionality of the world is the property of its reflection in our consciousness.

If all this is so, it is clear that we have really proved the dependence of space on *space-sense*. And, since we have proved the *existence of a space-sense lower than ours*, by this very fact we have proved the possibility of a space-sense *higher than ours*.

And we must admit that *if a fourth unit* of thinking becomes formed in us, as different from the concept as the concept is different from the representation, then, simultaneously with this, there will appear for us in the surrounding world a fourth characteristic which we may call geometrically a fourth direction or a fourth perpendicular, because this characteristic will contain properties of objects perpendicular to all properties known to us and not parallel to any of them. In other words, we shall see or feel ourselves not in a space of three, but of four dimensions, and the surrounding objects as well as our own bodies will reveal the *general properties of the fourth dimension* which we had not noticed before or which we had regarded as individual properties of objects (or their motion), just as animals regard the extension of objects in the third dimension as their motion.

Having seen or felt ourselves in the world of four dimensions, we shall find that the world of three dimensions has not and never had any real existence, that it was a creation of our fantasy, a phantom, a spectre, a delusion, an optical illusion, anything you like, but not reality.

All this is far from being a 'hypothesis', a supposition; it is an exact *fact*, as much of a fact as the existence of infinity. For the sake of its own existence, positivism had somehow to do away with infinity or at least to call it a 'hypothesis' which may or may not be true. But infinity is not a hypothesis; it is a fact. And just such a fact is also the multi-dimensionality of space and all that it implies, i.e. the unreality of everything three-dimensional.

CHAPTER 10

Spatial understanding of time. Four-dimensional angles and curves in our life. Does motion exist in the world or not? Mechanical motion and 'life'. Biological phenomena as manifestations of motion proceeding in higher space. Evolution of space-sense. Growth of space-sense and diminution of time-sense. Translation of time-sense into space-sense. Handicaps presented by our concepts, our language. The need to find a method of expressing time-concepts spatially. Science on the fourth dimension. A four-dimensional body. Four-dimensional sphere.

On the basis of all the conclusions made, we must now try to determine how we may see the real four-dimensional world which is screened off from us by the illusory three-dimensional world. There are two methods by which we may 'see' it: either by direct sensation, with the development of 'space-sense' and other higher faculties of which we shall speak later, or by a mental understanding arrived at by an elucidation of its possible properties by means of reasoning.

Earlier, by abstract reasoning, we came to the conclusion that the fourth dimension of space *must* lie in time, i.e. that time is the fourth dimension of space. Now we have found psychological proofs of this proposition. By comparing the perception of the world by different orders of living beings - a snail, a dog and a man - we have seen how different the properties of *one and the same world* are for them - precisely those properties which are expressed for us in the concepts of time and space. We have seen that they must sense time and space differently. That which is *time* for a lower being (a snail), becomes *space* for a being one degree higher (a dog); and the *time of* that being becomes *space* for a higher degree of being - a man.

This confirms the previously advanced supposition that our idea of time is essentially *composite* and actually contains *two ideas* - the idea of a certain space and the idea of movement in that space. Or, to be more exact - contact with a certain space, of which we are but dimly aware, provokes in us the sensation of movement in that space, and all taken together, i.e. the dim awareness of a certain space and the sensation of movement in that space, we call time.

This latter supports the thought that, instead of the idea of time having arisen from the observation of motion existing in nature, the

actual sensation of motion and the idea of motion have arisen from the 'time-sense' we possess, which is nothing but an imperfect *space-sense*, or the boundary-line, the limit of space-sense.

A snail feels the line as space, i.e. as something constant. It feels the rest of the world as time, i.e. as something ever-flowing. A horse feels the plane as space; it feels the rest of the world as time.

We feel the *infinite sphere* as space; the rest of the world - that which *was* yesterday and that which will be tomorrow - we feel as time.

In other words, every being feels as space all that is embraced by his space-sense; everything else is referred to time, i.e. everything *imperfectly felt* is referred to time. Or we can define it in this way:

Every being feels as space that which, by means of his space-sense, he can *represent to himself* as being outside himself in forms; and he feels as time that which he is incapable of *representing to himself* in forms; i.e. he feels the latter as something ever-flowing, inconstant, so unstable that no forms can represent it.

SPACE-SENSE IS THE FACULTY OF REPRESENTATION IN FORMS.

The 'infinite sphere' in the guise of which we represent our world, is constantly and unceasingly changing; at every new moment it is *no longer the same* as it was the moment before. There goes on in it a continual shifting of pictures, images, relationships. It is for us like a cinema screen where projections of pictures follow one another in a fast-flowing stream.

But where are the pictures themselves? Where is the light that projects them on the screen? Where do the pictures come from and where do they go?

If the 'infinite sphere' is the cinema screen, then our consciousness is the *light*. Penetrating through our mental apparatus, i.e. through our store of impressions (the pictures), it projects on the screen their reflections which we call *life*.

But whence do the impressions reach us?

From the same screen.

In this lies the most incomprehensible aspect of life as we see it. We both create it and get everything from it.

Imagine a man in an ordinary cinema theatre. Let us suppose that he knows nothing about the workings of a cinema, is ignorant of the existence of a projector *behind his back* and of small transparent pictures on a moving strip. Let us imagine that he wishes to *study* the cinema and starts by studying what he sees on the screen - taking

notes and photographs, observing the sequence of pictures, calculating, constructing hypotheses, and so on.

To what conclusions can he come?

Obviously to none at all until he turns his back on the screen and begins to study the *causes of the appearance of pictures on the screen*. The causes are in the projector (i.e. in consciousness) and in the moving strips of pictures (our menial apparatus). It is they that should be studied if one wishes to understand the 'cinema'.

Positivist philosophy studies nothing but the *screen* and the pictures projected on it. Consequently the question of where the pictures come from and where they go, and *why* they come and go instead of remaining eternally the same, remains a perpetual riddle for it.

But a *cinema* should be studied by beginning with the *source of light*, i.e. with *consciousness*; then one should pass on to the *pictures* on the moving strip, and only later should one study the *projections*.

We have established that an animal (a horse, a cat, a dog) must perceive three-dimensional motionless angles and curves as movements, i.e. as time-phenomena.

The question arises: May not *we* also perceive as movements, i.e. as time-phenomena, the four-dimensional angles and curves? We usually say that our sensations are moments of awareness of some changes taking place outside us, such as light, sound and so on - all 'vibrations of ether'. But what are these 'changes'? Maybe in reality there are no changes at all. Maybe what appears to us as movements, i.e. as changes, are in reality the motionless sides and angles of some kind of *things* existing outside us, things about which we know nothing.

Maybe our consciousness, incapable of grasping these 'things' *by means of sense-organs*, and *representing them to itself in their entirety, as they are* - and grasping only the separate moments of its contact with them, builds up the illusion of motion, imagining that something moves outside it, i.e. that it is the 'things' that move.

If this is so, then 'motion' may in reality be a 'derivative' and arise in our mind at its contact with the things which it cannot wholly grasp. Imagine ourselves approaching an unknown town which slowly *grows up*, i.e. that it did not exist before. Here a belfry *appeared* which was not there before; there a river *vanished*, which has been visible for a long time. . . . Our relationship to *time* is exactly the same; time gradually comes as though arising *out of nothing*, and disappears into nothing.

Each thing lies for us in time and only *a section of the thing* lies in space. Transferring our consciousness from the section of a thing to those parts of it which lie in time, we have the illusion of the motion of the *thing itself*.

We may put it like this: the sensation of motion is the consciousness of the transition from space to time, i.e. from a clear sense of space to an obscured one. And, on this basis, we can arrive at a real recognition of the fact that we perceive as sensations and project into the external world as phenomena the *motionless angles and curves of the fourth dimension*.

Is it necessary or possible to assume, on this basis, that no motion of any kind exists in the world, that the world is static and constant and that it appears to us to be moving and evolving simply because we look at it through the narrow slit of our sense-perception?

We return once more to the question: What is the world and what is consciousness? But now the question of the relation of our consciousness to the world has begun to approach a clear formulation.

If the world is a *Great Something*, possessing self-consciousness, then we are the rays of this consciousness, conscious of ourselves but unconscious of the whole.

If there is no motion, if it is nothing but illusion, then we must seek further — for the source of this illusion.

Phenomena of life, biological phenomena, are very similar to a passage through our space of some four-dimensional *circles* of great complexity, each consisting of a mass of interwoven lines.

The *life* of a man or of another living being is like a complex circle. It always begins at one point (birth) and always ends at one point (death). We have every right to suppose that it is *one and the same point*. Circles may be large or small. But all of them begin and end in the same way - and they end at the point where they have begun, i.e. at the point of *non-being* from the physico-biological standpoint, or at the point of some different being from the psychological standpoint.

What is a biological phenomenon, the phenomenon of life? Our science has no answer to this question. It is an enigma. A living organism, a living cell, living protoplasm contains *something* un-definable, which distinguishes 'living matter' from dead matter. We know of this *something* only through its functions. Of these functions, the chief one lacking in a dead organism, a dead cell, dead matter is - *capacity of reproduction*.

A living organism multiplies endlessly, absorbing and subjugating dead matter. This capacity of continuing itself and subjugating dead

matter with its mechanical laws is the inexplicable function of 'life', showing that life is not merely a complex of mechanical forces as positivist philosophy tries to assert.

This proposition - that life is not a complex of mechanical forces -is also confirmed by the *incommensurability* of the phenomena of mechanical motion with the phenomena of life. The phenomena of life cannot be expressed in formulae of mechanical energy, nor in heat calories or power units. And the phenomenon of life cannot be created by artificial physico-chemical means.

If we take each individual life as a four-dimensional circle, this will explain to us why each circle inevitably disappears from our space. This happens because a *circle* inevitably ends at the point where it had begun. And so the 'life' of an individual being, having begun at birth, must end at death, which is the return to the starting point. But during its passage through our space, the circle emits certain lines which, by connecting with others, produce new circles.

Of course, in reality all this happens quite differently; nothing is born and nothing dies; but this is how it appears to us, because we only see the sections of things. Actually, *the circle of life* is only a section of *something*, and this *something* undoubtedly exists before birth, i.e. before the appearance of the circle in our space, and continues to exist after death, i.e. after the disappearance of the circle from our field of vision.

For our observation, *life phenomena* are very similar to *phenomena of motion*, as they appear to a two-dimensional being; therefore they may be 'motion in the fourth dimension'.

We have seen that the two-dimensional being will regard as movements of bodies the three-dimensional properties of motionless solids; and as *phenomena of life* the actual movements of bodies proceeding in a higher space.

In other words, motion which *remains* motion in a higher space appears to a lower being as a phenomenon of life, and motion which *disappears* in higher space, becoming a *property* of a motionless body, appears to it as mechanical motion.

The incommensurability for us of phenomena of life and phenomena of 'motion' is exactly the same as the incommensurability for a two-dimensional being in his world of the two kinds of motion, of which only one is real and the other illusory.

Hinton speaks of this (*The Fourth Dimension*):

There is something in life not included in our conceptions of mechanical movement. Is this something a four-dimensional movement?

If we look at it from the broadest point of view, there is something striking in the fact that where life comes in there arises an entirely different set of phenomena to those of the inorganic world.*

Starting from this, it is possible to presume that those phenomena which we call *phenomena of life* are motion in higher space. Phenomena which we call mechanical motion are *phenomena of life* in a space lower than ours, whereas in a higher space they are simply properties of motionless bodies. This means that if we take three kinds of existence - two-dimensional, ours and a higher one, it will prove that the 'motion' observed by two-dimensional beings in two-dimensional space is *for us* the property of motionless bodies;

'life' which is observed in two-dimensional space, is motion as observed by us in our space. And further - movements in three-dimensional space, i.e. all our mechanical movements and manifestations of physical and chemical forces, such as light, sound, heat and so on, are only our sensations of some properties of four-dimensional bodies, unknowable for us; and our 'phenomena of life' are movements of bodies of a higher space which appear to us as birth, growth and life of living beings. If we presume a space not of four but of five dimensions, then in it 'phenomena of life' will probably prove to be properties of *motionless bodies* - species, varieties, families, peoples, tribes and so on, and possibly only 'thought phenomena' will appear as motion.

We know that phenomena of motion or manifestations of energy are connected with an expenditure of time. And we see that with a gradual transition from lower to higher space, movements disappear, becoming translated into properties of motionless bodies. This means that the expenditure of time disappears, the need for time disappears. The two-dimensional being needs *time* for the explanation of the simplest phenomena - an angle, an incline, a cavity. We no longer need time to explain such phenomena, but we need it to explain phenomena of motion and physical phenomena. In a still higher space our phenomena of motion and physical phenomena will probably be seen, without any time, as properties of motionless bodies, and biological phenomena - birth, growth, reproduction and death, will be regarded as phenomena of motion.

Thus we see how expansion of consciousness makes the idea of time recede.

* C. H. Hinton, *The Fourth Dimension*, London, 1912, reprinted Arno Press, New York, 1976, p. 77.

We see how entirely conditional it is.

We see that by time are designated the characteristics of a space higher than the given one, i.e. the characteristics of representations of a consciousness higher than the given one.

For a one-dimensional being all the characteristics of the two-dimensional; three-dimensional, four-dimensional and still higher space lie in time - all this is *time*. For a two-dimensional being time includes characteristics of three-dimensional, four-dimensional and still higher space. For a man, i.e. a three-dimensional being, time includes characteristics of four-dimensional and higher space.

Thus, as consciousness and forms of perception rise and expand, the characteristics of space increase and those of time decrease.

In other words, the growth of space-sense proceeds at the expense of time-sense. Or it can be said that time-sense is an imperfect space-sense (i.e. faculty of imperfect representation) and that, as it becomes more perfect, it passes into space-sense, i.e. into the faculty of representing in forms.

If, on the basis of all the principles we have elucidated, we try to form an idea of the universe, however abstract, it will quite naturally be a universe totally different from the one we are accustomed to represent to ourselves. In the first place, it will not depend on time at all. *Everything* in it will exist *always*. It will be the universe of the ETERNAL NOW of Indian philosophy - a universe in which there will be no *before* and no *after*, but only the present, *known* or *unknown*.

Hinton feels that with the *expansion of space-sense* our view of the world should undergo a complete change, and he speaks of this in his book *A New Era of Thought*:

The conception which we shall form of the universe will undoubtedly be as different from our present one, as the Copernican view differs from the more pleasant view of a wide immovable earth beneath a vast vault. Indeed, any conception of our place in the universe will be more agreeable than the thought of being on a spinning ball, kicked into space without any means of communication with any other inhabitants of the universe.*

What then is the world of many dimensions, what are many-dimensional bodies, whose lines and sides are perceived by us as *motion*?

A very great power of imagination is needed to escape, even for a brief moment, from the limits of *our* representations and to see the world mentally in other categories.

* C. H. Hinton, *A New Era of Thought*, London, George Allen & Unwin, 1910, p. 66.

Let us imagine *some* object, say a *book*, outside time and space. What would the latter mean? If we take a book outside time and space, it would mean that *all the books* that have ever existed, are existing or will ever exist, *exist together*, i.e. occupy the same place and exist simultaneously, forming *as it were one book*, including in itself qualities, characteristics and attributes of all the books that are possible in the world. When we simply say *a book*, we mean *something* possessing the general characteristics of all books - it is a concept. But the *book of* which we are now speaking possesses not only the general, but also the individual characteristics of all individual books.

Let us take some other objects: a table, a house, a man. Let us imagine them outside time and space. We shall have *objects* possessing, each of them, such an infinitely great number of attributes and characteristics that the human mind would be utterly incapable of comprehending them. And if a man would wish to comprehend them with his mind, he would be forced to divide these objects in some way, to take them first in one sense, in one aspect, in one section of their being. What is 'man' outside time and space? It would be the whole of mankind, man as a 'species' - *Homo sapiens*, but at the same time possessing the characteristics, attributes and peculiarities of *all* individual men. It would be I, and you, and Julius Caesar, and the conspirators who murdered him, and the newsboy at the corner whom I pass every day - all the kings, all the slaves, all the saints, all the sinners - all taken together, *fused* into one indivisible being of *man*, similar to the great tree which has bark, woody tissue and dead branches, green leaves, blossom and fruit. Can our mind understand and conceive such a being?

The idea of such a 'great being' inspired the artist or artists who created the *Sphinx*.

What then is motion? Why do we sense it if it does not exist?

Mabel Collins, a theosophical writer of the first period of modern theosophy speaks very beautifully about the latter in her poetical *Story of the Year*:

There is no permanence in earth life, and no real meaning, except in the contact of personalities, and in the effort of growth. What are called events and circumstances and are supposed to be the realities of life are merely conditions which produce these contacts and allow of this growth.*

* Mabel Collins, *The Story of the Year, A Record of Feast and Ceremonies by the author of 'Light on the Path'*, London, 1895.

In these words there already sounds quite a new understanding of *the real*. And indeed *the illusion of motion cannot arise out of nothing*. When we travel in a railway carriage and trees rush past our window, outstripping one another, we know that this motion is only *apparent*, that the trees are motionless and the illusion of their motion is created by *our own motion*.

As in these particular cases, so also in general in relation to all *motion* in the material world, the basis of which, according to the 'positivists' is the motion of the minutest particles of matter. While recognizing this motion as illusory, we must ask whether the illusion of this motion is not created by some motion inside our consciousness.

It must be so.

And, having established this, we must try to determine which kind of motion goes on inside our consciousness, i.e. what is moving and in relation to what?

H. P. Blavatsky, in her first book *Isis Unveiled* touched upon the same question of the relation of *life to time* and to *motion*. She wrote:

As our planet revolves once every year around the sun and at the same time turns once in every twenty-four hours upon its own axis, thus traversing minor circles within a larger one, so is the work of the smaller cyclic periods accomplished and recommenced, within the Great Saros.

The revolution of the physical world, according to the ancient doctrine, is attended by a like revolution in the world of intellect - the spiritual evolution of the world proceeding in cycles, like the physical one.

Thus we see in history a regular alternation of ebb and flow in the tide of human progress. The great kingdoms and empires of the world, after reaching the culmination of their greatness, descend again, in accordance with the same law by which they ascended; till, having reached the lowest point, humanity reasserts itself and mounts up once more, the height of its attainment being, by this law of ascending progression by cycles, somewhat higher than the point from which it had before descended.

The division of the history of mankind into Golden, Silver, Copper and Iron Ages, is not a fiction. We see the same thing in the literature of peoples. An age of great inspiration and unconscious productiveness is invariably followed by an age of criticism and consciousness. The one affords material for the analyzing and critical intellect of the other.

Thus, all those great characters who tower like giants in the history of mankind, like Buddha-Siddhartha, and Jesus, in the realm of spiritual, and Alexander the Macedonian and Napoleon the Great, in the realm of physical conquests, were but reflexed images of human types which had existed ten thousand years before, in the preceding decimillennium, reproduced by the mysterious powers controlling the destinies of our world. There is no prominent character in all the annals of sacred or profane history whose prototype we cannot find in the half-fictitious and half-real traditions of bygone religions and mythologies. As the star,

glimmering at an immeasurable distance above our heads, in the boundless immensity of the sky, reflects itself in the smooth waters of a lake, so does the imagery of men of the antediluvian ages reflect itself in the periods we can embrace in an historical retrospect.

*'As above, so it is below. That which has been, will return again. As in heaven, so on earth.'**

Everything said about a new understanding of time relations is bound to be very obscure. This is so because our language is entirely unadapted to a *spatial expression of time concepts*. We have not got the necessary words for it, we lack the verbal forms. Strictly speaking, the expression of these relations, new for us, requires some quite new, different forms - *not verbal*. The expression of new time relations needs a language without verbs. Completely *new parts of speech* are needed, an infinite number of *new words*. Until then, in our human language, we can speak of 'time' only by hints. The true essence of it is *inexpressible* for us.

We must never forget this inexpressibility. *This is the sign of truth*, the sign of reality. That which can be expressed cannot be real.

All systems speaking about the relation of the human soul to time -all the ideas of LIFE AFTER DEATH, THEORIES OF REINCARNATION, OF THE TRANSMIGRATION OF SOULS, all these are symbols, striving to transmit relations which cannot be expressed *directly* owing to the poverty and the weakness of our language. They should not be understood literally, just as one cannot understand literally artistic symbols and allegories. One should look for their *hidden meaning*, a meaning which cannot be expressed in words.

A literal understanding of these symbolic forms in certain trends of modern literature, and the fact that they are being associated with the ideas of 'evolution' and 'morality', taken in the most narrow dualistic sense, completely distorts their inner content and deprives them of all significance and value.

* H. P. Blavatsky, *Isis Unveiled*, vol. I, J. W. Bonton, New York, 1884, reprinted Theosophical Publishing House, 1931.

CHAPTER 11

Science and the problem of the fourth dimension. Paper read by Professor N. A. Oumoff at the Mendeleev Convention in 1911, 'The Characteristic Features and Problems of Contemporary Natural-scientific Thought'. New physics. Electro-magnetic theory. Principles of relativity. The works of Einstein and Minkowsky. Simultaneous existence of the past and the future. The eternal Now. Van Manen's book on occult experiences. Diagram of a four-dimensional figure.

Speaking generally about the problems of time, space and higher dimensions, expounded in the preceding chapters, it is impossible to avoid dwelling once more on the attitude of science to those problems. To many people the attitude of 'exact knowledge' to those questions seems a riddle; and yet they are undoubtedly the most important of all the questions which at present engage the attention of human thought.

If it is important, then why does science not speak about it? And why, on the contrary, does science go on repeating opposite affirmations, pretending not to know, or not to notice, a whole series of theories and hypotheses which have been advanced?

Science should be the *investigation of the unknown*. Why then does it not strive to investigate this *unknown* which has been for so long brought to its notice and which very soon will even cease to be unknown?

To this one can only answer that, unfortunately, only a very small part of official academic science undertakes what it should, i.e. to investigate the new and the unknown. The greater part of it is merely *instruction* in what has long become commonplace for independent thought or, still worse, what has long become obsolete and discarded as useless.

Therefore, it is especially gratifying to note that, at times, even in science one may detect a tendency towards a quest for new horizons of thought; in other words, that academic routine and an obligatory reiteration of an endless number of commonplaces have not always and in all cases succeeded in killing love of knowledge and the capacity of independent thinking.

Although very timidly and tentatively, in some of its boldest

representatives, SCIENCE, in the last decades has, after all, touched upon problems of higher dimensions, and in such cases arrived at results almost identical with those expounded in the preceding chapters.

In December 1911 the Second Mendeleev Convention was opened by a paper read by Professor N. A. Oumoff, *devoted to problems of time and higher dimensions*, under the title: The Characteristic Features and Problems of Contemporary Natural-scientific Thought'.

Professor N. A. Oumoff's paper, in spite of a certain incomplete-ness, is an event of great magnitude in the realm of science and will doubtless be, in time, recorded in the history of the development of exact knowledge as an unusually bold and outstanding attempt to proclaim, in the citadel of positivism which the Mendeleev Convention should have been, new ideas, which, in their essence, refute positivism in its entirety.

However, inertia and routine were bound to do their work. Professor N. A. Oumoff's paper was heard among a number of other papers, was duly published in the proceedings of the Convention and remained there, utterly failing to produce the effect of a bombshell which it should have done had the listeners been more able, and above all more willing, to appreciate its real meaning and significance.

Of course, the weakening of the significance of Professor Oumoff's paper was to a great extent due to certain reservations and limitations made by himself, to the title of the paper, which failed to express its substance, and to its general tendency, striving to demonstrate that *science is proceeding in a new direction*, instead of stating the plain fact that *the new direction goes against science*.

Professor N. A. Oumoff died in 1916, and I have no desire to impose upon him thoughts he did not share. I had a talk with him in January 1912 which showed me that he stood, as it were, midway between ideas of the fourth dimension very akin to those expounded by me in the first edition of *Tertium Organum*, and physical theories still recognizing *motion* as an independent fact. What I mean is that while he recognized time as the fourth dimension of space, Professor Oumoff did not regard motion as an illusion of our consciousness, but admitted the reality of motion in the world, as a fact independent of us and our mental make-up.

I point this out because, later, I shall quote extracts from Professor Oumoff's paper, choosing mainly those parts which contain ideas almost identical with the thoughts expressed by me in the preceding chapters.

I shall not deal with the greater part of the paper, depicting the

evolution of modern physics from atom to electron, for this seems to me somewhat artificially joined to the ideas on which I would like to dwell, and has no inner connection with them.

From my point of view it is immaterial whether the atom or the electron is placed at the basis of matter. In my opinion, the basis of matter is *illusion*, or, in other words, the form of representation. And a consistent development of the ideas of higher space, which Professor Oumoff placed at the foundation of his paper, should, in my opinion, lead to the negation of *motion*, just as a consistent development of the ideas of mathematical physics led to the negation of matter, *as a substance*.

Having mentioned *electrons*, I should add that there is a means of reconciling the latest scientific ideas with the data of the psychological method; namely, by means of the very ancient systems of the Kabala, alchemy and others, which put at the foundation of the material world four principles or four elements, of which the first two, fire and water, correspond to the positive and negative electrons of modern physics.

But, for this electrons should be taken not simply as *electromagnetic units*, but as *principles*, i.e. as two opposing principles constituting the world.

Professor Oumoff's paper is interesting and noteworthy in that it already stands on the very threshold of metaphysics. Maybe the only thing that stands in his way is the lingering faith in the value of the positivist method, which in fact dies when the new watchwords of knowledge are proclaimed.

The introduction to our forthcoming work [says Professor N. A. Oumoff] should be, most properly, devoted to the experiences of scientific thought in its search for the image of the world. The urgent need of scientific work along these lines will be clear, if we turn to the precepts of our great pioneers of science. . . . These precepts represent the deep motives of an active service to natural science and to mankind. It is useful to express them in our times when thought is mainly directed towards questions of organization of life. . . . Let us remember the profession of faith of the natural scientist:

To affirm man's power over energy, time, space. . . . To know the architecture of the world and, in this knowledge, to find a basis for creative foresight. . . . This foresight inspires confidence that natural science will not fail to continue the great and responsible work of creating, in the midst of old nature, a new nature adapted to the increased requirements of mankind.

New nature has become a vital necessity in individual and public activity. But its grandeur and its power seem to bring contentment to our thought.

The need for stability in daily life and the brevity of personal experience as compared with the evolution of the earth, lead men to faith, and create the mirage of the stability of the surrounding order of things not only in the present, but also in the future. The creators of natural science do not share this tranquil point of view, and to this circumstance natural science owes its constant development. I venture to lift this brilliant and familiar veil and to reveal the innermost recesses of scientific thought, poised on the dividing line between two conceptions of the world.

The steersman of science should be constantly vigilant, notwithstanding the prosperity of his voyage; stars should constantly shine above him, by which he plots his course in the ocean of the unknown.

At the present time, the constellations in the sky of our science have changed, and a new star has shone forth, having no equal in brilliance.

Persistent scientific investigation has expanded the volume of the knowable to dimensions which were inconceivable even a short while -twenty or fifteen years - ago. Number still remains the legislator of nature, but, being capable of representation, it has eluded the conception of the world which considered it possible to represent the world by mechanical models.

The new that has been discovered provides a sufficient number of images for the construction of the world, but they destroy its old architecture, familiar to us, and can only be incorporated in a new order, the free lines of which extend far beyond the limits not only of the old external world, but also beyond the fundamental forms of our thinking.

I have to lead you to the summits from which open up perspectives which fundamentally re-form our idea of the world.

The ascent towards them, amid the ruins of classical physics, presents considerable difficulties, and I beg your indulgence in advance and shall endeavour to simplify and shorten our path, as far as it is possible.

Further, Professor Oumoff draws the picture of the evolution of form 'from atom to electron', from material and mechanical ideas of the universe to electro-magnetic ideas:

The axioms of mechanics are but fragments, and making use of them is equivalent to judging about the content of a whole chapter by means of a single sentence.

It is not surprising, therefore, that the attempt at a mechanical explanation of the properties of electro-magnetic ether by means of axioms in which these properties are either denied or are one-sidedly predetermined, proved a failure. . . .

The mechanical conception of the world proved one-sided. . . . The image of the world had no unity.

The electro-magnetic world could not remain as something alien, external, in relation to matter. The material conception of the world with its immutable foundations, had insufficient flexibility to allow fusion to take place with it and its principles. Only one way out remained-to sacrifice one of the worlds, either the material, mechanical world, or the

electro-magnetic world. It was imperative to find sufficient basis for one decision or the other. This was not slow in presenting itself.

The subsequent development of physics is a process against matter, which ended in its rejection. But, side by side with this negative activity proceeded the creative work of reforming the electro-magnetic symbolism; it had to be capable of representing the properties of the material world, its atomic structure, momentum, radiation and absorption of energy, electromagnetic phenomena. . . .

On the horizon of scientific thought was rising the electronic theory of matter.

Through electrical units a connection was disclosed between matter and vacuum. . . .

The idea of a special sub-stratum, filling the vacuum - ether - is superfluous. . . .

Light and heat are born from the movements of electrons. They are the suns of the microcosmos. . . .

The universe consists of positive and negative units, bound together by electro-magnetic fields.

Matter has disappeared; its variety is replaced by systems of electrical units, akin to one another and, in the place of the customary, material world, there takes shape before us the vastly different electro-magnetic world.

But even the recognition of the electro-magnetic world has not disposed of many insoluble problems and difficulties; the necessity of a unifying system was felt.

In our arduous ascent we have reached the point [says Professor Oumoff] where the road divides. One stretches out horizontally towards the plain which we have just depicted; the other leads towards the last summit, which is already visible and the ascent is not steep.

Let us examine the point we have reached. It is very dangerous; more than one theory has been wrecked on it. It is all the more dangerous because its subtlety is hidden by the mask of simplicity. Its foundations are the experimental attempts which gave a negative answer to the investigations of thorough and skilled observers.

Professor Oumoff points out the contradictions which resulted from some of the experiments. The need to explain these contradictions gave impetus to the finding of a unifying principle; this was the *principle of relativity*.

The deductions of Lorentz, made in 1909 and referring mainly to electro-optical phenomena, gave the impetus to the publication by Albert Einstein of a new principle, and to its remarkable generalization by the recently deceased Hermann Minkowsky.

We are approaching the summit of modern physics: it is occupied by the principle of relativity, the expression of which is so simple that its all-important significance is not immediately evident. It says; the laws of phenomena in a system of bodies, for an observer connected with it, appear

to be the same whether the system is at rest or is moving uniformly and rectilinearly.

It follows hence that, by the aid of phenomena taking place in a system of bodies with which he is connected, an observer is unable to discover whether this system possesses a uniform progressive motion or not.

Thus, no phenomenon taking place on earth enables us to discern its progressive motion in space.

The principle of relativity includes in itself the observing intellect, which is a circumstance of the greatest importance. The intellect is connected with a complex physical instrument - the nervous system. Consequently, this principle gives indications concerning things which take place in moving bodies, not only in relation to physical and chemical phenomena, but also in relation to phenomena of life, and therefore also to the quest of man. It is remarkable as an example of a thesis based on strictly scientific experiment in the purely physical domain, which bridges the gulf between two worlds generally considered to be of different nature.

Professor Oumoff gives examples of explaining complex phenomena by means of the principle of relativity. And he further shows how the most enigmatic problems of *life* are explained from the point of view of electro-magnetic theories and the principle of relativity, and, finally, comes to what is especially interesting for us:

All spatial measurements involve time. We cannot define the geometrical form of a solid moving in relation to us; we always define its kinematic form. Therefore our spatial measurements actually take place not in a three-dimensional manifold, i.e. one possessing three dimensions of height, width and depth, such as this hall, but in a four-dimensional manifold. We can represent the first three dimensions by three tape measures upon which are marked feet, yards or other measures of length. We represent the fourth dimension by a cinematographic reel, on which each point corresponds to a new phase of the phenomena of the world. The distance between the points of this reel is measured by a clock which goes uniformly at any speed. One observer will measure the distance between two points by one year, another by a hundred years. The passage from one point on this reel to another corresponds to our conception of the flow of time. Therefore we shall call this fourth dimension - time. The cinematographic reel can replace the reel of any of the tape measures and vice versa. The mathematical genius Minkowsky, so prematurely deceased, has proved that all these four dimensions are equivalent. How to understand this? Those who came from Moscow to St Petersburg passed through Tver. They are no longer at that station, nevertheless it exists. In the same way, a moment which corresponded to some event, already past, as, for instance, to the birth of life on earth, has not disappeared but exists. It is not outlived by the universe, but only by the earth. The place of this event in a four-dimensional universe is defined by a certain point, and this point has existed, exists and will continue to exist. At present another wanderer is passing through it - through this station passed by the earth. Time does not flow, just as space does not flow. It is we that flow, wanderers in a four-dimensional universe. Time is as much a dimen-

sion of space as height, width and length If we interchange them in the expression of some law of nature, we still arrive at this law

The new ideas are embodied by Minkowsky in an elegant mathematical theory, we shall not enter the majestic temple erected by his genius, a voice proclaims from there

*'In the universe all is given for it there is no past or future, it is - the eternal present, it has no limits either in space or in time Changes take place in individualities and correspond to their displacements along the world ways in the four-dimensional, eternal and boundless manifold In the domain of philosophic thought these ideas should produce a greater revolution than the displacement of the earth from the centre of the universe by Copernicus'** From the tunes of Newton, natural science has never been faced with more brilliant perspectives Is not the power of natural science blazoned forth in the transition from the indisputable experimental fact -the impossibility of determining the absolute motion of the earth - to problems of the mind! A contemporary philosopher exclaimed in confusion 'Beyond truth and falsehood!'

When the cult of a new god is born, his word is not always clearly understood; the true meaning becomes revealed in time I think that the same is true also as regards the principle of relativity.

The elimination of anthropomorphism from scientific ideas has rendered an enormous service to science.

The principle of relativity follows the same path, showing the dependence of our observations on the general conditions of phenomena.

The electro-magnetic theory of the world and the principle of relativity explain only those phenomena, the place of which is determined by the part of the universe occupied by matter; the remaining part, which appears to our senses as a vacuum, still remains outside science. But the shores of the material world are constantly bathed by the surf of energy coming from that agitated ocean which is empty for our senses but not for our reason.

Is not the dualism of matter and vacuum an anthropomorphism and, moreover, the last one in science? Let us put the fundamental question. What part of the universe is filled by matter? Let us surround our planetary system by a sphere, the radius of which is equal to half the distance between the sun and the nearest stars: the length of this radius is traversed by a ray of light in a year and a half Let us accept the volume of this sphere as the volume of our world. Now, starting from the sun, as the centre, let us trace another, a lesser, sphere, the radius of which is equal to the distance between our sun and the furthest planet. I presume that the matter of our world, concentrated in one place, will not take more than one tenth of the volume of the planetary sphere: I think that this figure is considerably exaggerated. Calculation of volumes will show that in our world the volume filled with matter relates to the volume of vacuum as one to a number represented by the figures 3 with 13 noughts. This relationship corresponds to the relationship of one second to a million years.

According to Lord Kelvin's calculation, the density of matter corresponding to such a relationship would be ten thousand million times less dense than water, i.e. it would be at the furthest limit of rarefaction.

* My italics - P D Ouspensky

Professor Oumoff gives an example of a number of spheres corresponding to the number of seconds in a million years. On one of these spheres (corresponding to the matter in the universe) is inscribed all we know, because all we do know refers to matter. And matter is only one sphere among millions and millions of 'spheres of vacuum':

The conclusion arrived at [he says] is this: Matter represents a highly improbable event in the universe.

This event came into being because improbability does not mean impossibility. But where and in what manner are realized more probable events? Is it in the domain of radiant energy?

The theory of probability embraces an immense part of the universe -the vacuum - in the world of becoming. We know that radiant energy possesses gravitational mass. Among the varied phenomena in the world of intercrossing rays, do not their elements attracted to one another give birth to tiny particles, the accumulation of which constitutes our material world?

Could it be that vacuum is the laboratory of matter?

The material world is the limited horizon which opens up before a man who has come out into a field. For his senses life is teeming only within the limits of this horizon; outside it, for man's senses, is only vacuum.

I do not want to start a polemic against those thoughts in Professor Oumoff's paper with which I do not agree. Still, I shall point out and enumerate the questions which arise, in my opinion, from the incompatibility of some premises.

The antithesis between *vacuum* and the *material world* sounds almost naive after the just-quoted words of Minkowsky about the necessity for science to pass to the questions of the mind when dealing with purely physical problems. Further, I see no essential difference between the material or mechanical and the electromagnetic universe. All this is three-dimensional. In the electromagnetic universe there is, as yet, no proper transition to the fourth dimension. And Professor Oumoff makes only one unquestionable attempt to connect the electro-magnetic world with higher dimensions. He says:

The sheet of paper, covered with electro-magnetic symbols, which we have used as a cover for the vacuum, may be regarded as milliards of separate superimposed sheets each of which represents the field of one small electric quantity or charge.

This is all. The rest is, after all, as three-dimensional as the theory of atoms and ether.

'We are present at the funeral of old physics', says Professor

Oumoff. And this is true. But old physics becomes lost and disappears not in electromagnetic theories, but in ideas of a new extension of space which, so far, we have called time and *motion*. The physics that is truly *new* will be the physics which does not contain *motion*, i.e. in which there is no dualism of rest and motion, and no dualism of matter and vacuum.

By taking the universe as *thought* and *consciousness*, we become completely free of the idea of vacuum. And this point of view explains the *small probability of matter*, to which Professor Oumoff has arrived. Matter, i.e. everything *finite*, is an illusion in the infinite world.*

Out of the numerous psychological attempts to investigate the fourth dimension I shall dwell also on the book by Johan van Manen, *Some Occult Experiences*.**

This book contains a remarkable drawing of a four-dimensional body, which the author 'saw' by his inner vision. This interesting experience is described by van Manen in the following way:

When residing and touring in the North of England, several years ago, I talked and lectured several times on the fourth dimension. One day after having retired to bed, I lay fully awake, thinking out some problem connected with this subject. I tried to visualize or think out the shape of a fourth-dimensional cube, which I imagined to be the simplest fourth-dimensional shape. To my great astonishment I saw plainly before me first a fourth-dimensional globe and afterwards a fourth-dimensional cube, and learned only then from this object lesson that the globe is the simplest body, and not the cube, as the third-dimensional analogy ought to have told me beforehand. The remarkable thing was that the definite endeavour to see the one thing made me see the other. I saw the forms as before me in the air (though the room was dark), and behind the forms I saw clearly a rift in the curtains through which a glimmer of light filtered into the room. This was a case in which I can clearly fix the impression that the objects seen were outside my head. In most of the other cases I could not say so definitely, as they partake of a dual character, being almost equally felt as outside and inside the brain.

I forgo the attempt to describe the fourth-dimensional cube as to its form. Mathematical description would be possible, but would at the same time disintegrate the real impression in its totality. The fourth-dimensional globe can be better described. It was an ordinary three-dimensional globe, out of which on each side, beginning at its vertical circumference, bent tapering horns proceeded, which, with a circular bend, united their points above the globe from which they started.

* A. Einstein's book on relativity, which has since appeared, makes it possible to become better acquainted with the scientific (physical) treatment of this question.

** *Some Occult Experiences described by Johan van Manen and annotated by C. W. Leadbeater*, Theosophical Publishing House, Adyar, Madras, India, 1913.



So three circles are formed, the lower one representing the initial globe, the upper one representing empty space, and the greater circle circumscribing the whole. If it be now understood that the upper circle [empty space] does not exist and the lower (small) circle is identical with the outer (large) circle, the impression will have been conveyed, at least to some extent. . . I have always been easily able to recall this globe, to recall the cube is far more difficult, and I have to concentrate to get it back.

I have in a like manner had rare visions of fifth- and sixth-dimensional figures. At least I have felt *as if* the figures I saw were fifth- and sixth-dimensional. In these matters the greatest caution is necessary. I am aware that I have come into contact with these things as far as the physical brain allows it, without denying that beyond what the brain has caught there was something further, *felt* at the time, which was not handed on. The sixth-dimensional figure I cannot describe. All I remember of it is that it gave me at the time an impression *in form of* what we might call diversity in unity, or synthesis in differentiation. The fifth-dimensional vision is best described, or rather hinted at, by saying that it looked like an Alpine relief map, with the singularity that all mountain peaks and the whole landscape represented in the map were *one mountain*,* or again, in other words, as if all the mountains had one single base. This was the difference between the fifth and sixth, and in the fifth the excrescences were in one sense exteriorized and yet rested in the same unit; but in the sixth they were differentiated but not exteriorized, they were only *in different ways identical* with the same base, which was their whole.

In a note to these remarkable pages C. W. Leadbeater says:

Striking as the drawing is [of a four-dimensional figure made by van Manen] its value lies chiefly in its suggestiveness to those who have once seen that which it represents. One can hardly hope that it will convey a clear idea of the reality to those who have never seen it. It is difficult to get an animal to understand a picture - apparently because he is incapable of grasping the idea that perspective on a flat surface is intended to represent objects which he knows only as solid. The average man is in exactly the same position with regard to any drawing or model which is intended to

* See Jacob Boehme's story, quoted by James, of a harp of many strings, of which each string is a separate instrument

suggest to him the idea of the fourth dimension; and so, clever and suggestive as it is, I doubt whether it will be of much help to the average reader.

The man who has seen the reality might well be helped by this to bring into his ordinary life a flash of that higher consciousness; and in that case perhaps he might be able to supply, in his thought, what must necessarily be lacking in the physical-plane drawing.

For my part I may say that the true meaning of van Manen's '*vision*' is hard even to appreciate with the means at our disposal. When I saw in his book the drawing reproduced here, I at once understood and felt all that it means. But I disagreed somewhat with van Manen in the interpretation of this drawing. He writes:

We may also call the total impression that of a ring. I think it was then [looking at the drawing] that I understood for the first time that so-called fourth-dimensional sight is sight with reference to a space-conception arising from the visual perception of density.

In spite of all its caution, this remark seems to me dangerous, for it creates the possibility of the same mistake which has stopped Hinton in many things. This mistake consists in the possibility of constructing a certain *pseudo-fourth dimension* which, in actual fact, lies entirely in three dimensions. In my opinion *the figure is full of motion*. The whole figure seems to me *moving*, as though constantly arising in the meeting point of the sharp ends, spreading out from there and being re-absorbed there. But I shall not analyse and examine van Manen's experience now, leaving this to the readers who have had similar experiences.

As regards van Manen's descriptions of his observations of the 'fifth' and the 'sixth' dimensions, it seems to me that nothing in them justifies the supposition that they refer to a domain *higher* and *more complex* than the four-dimensional world.

In my opinion all this is no more than observations of the domain of the fourth dimension. But the remarkable thing in them is their similarity to the experiences of some mystics, especially those of Jacob Boehme. Moreover, the method of *object-lesson* is very interesting, i.e. those *two images* which van Manen saw and from the comparison of which he drew his conclusions.

CHAPTER 12

Analysis of phenomena. What determines for us different orders of phenomena?

Methods and forms of the transition of phenomena of one order into another.

Phenomena of motion. Phenomena of life. Phenomena of consciousness. The central question of our perception of the world:

which kind of phenomena is primary and produces the others? Can motion lie at the beginning of everything? Laws of the transformation of energy. Simple transformation and the liberation of latent energy. Different liberating forces of different kinds of phenomena. The force of mechanical energy, the force of a living cell and the force of an idea. Phenomena and noumena of our world.

The order of phenomena is determined for us, first, by our method of perception and, second, by the form of the transition of one kind of phenomena into another.

We distinguish three kinds of phenomena according to our method of perception and the form of their transition into other phenomena.

Physical phenomena (i.e. all phenomena studied by physics and chemistry).

Phenomena of life (all phenomena studied by biology and its sub-divisions).

Psychological phenomena (thoughts, feelings, etc.).

We perceive physical phenomena by means of our sense-organs or by means of instruments. A great many recognized physical phenomena are not observed directly; they are only a projection of the presumed causes of our sensations, or the causes of other phenomena. Physics recognizes the existence of very many phenomena which have never been observed either by sense-organs or by instruments (for instance, the temperature of absolute zero, etc.).

Phenomena of life are not observed as such. We cannot project them as the cause of definite sensations. But certain *groups of sensations* make us presume the presence of phenomena of life behind the groups of physical phenomena. It is possible to say that a certain grouping of physical phenomena makes us presume the presence of phenomena of life. We define the cause of phenomena of life as something imperceptible for the senses or for instruments and incommensurable with the causes of physical sensations. A sign of the presence of phenomena of life is the capacity of organisms to reproduce themselves, i.e. their multiplication in the same forms, the

indivisibility of individual units and their capacity of adaptation which is not observed outside of life.

Psychological phenomena - feelings and thoughts - we know in ourselves by direct sensation, *subjectively*. We deduce their existence in others *by analogy with ourselves*; on the grounds of their manifestation in actions, and on the grounds of what we learn through communication by means of speech. But, as some philosophical theories point out, it is impossible to establish, strictly objectively, the presence of another consciousness, apart from one's own. A man usually establishes it on the grounds of an inner conviction.

Physical phenomena pass one into another completely. Heat may be *transformed* into light; pressure, into motion, and so on; any physical phenomenon may be created out of other physical phenomena; any chemical compound may be reproduced synthetically by combining the component parts in the required proportions and under the required physical conditions. Modern physics presumes that at the basis of all physical phenomena lie electro-magnetic phenomena. *But physical phenomena do not pass into phenomena of life*. By no combination of physical conditions can science create life, just as by chemical synthesis it cannot create living matter, protoplasm. We can tell what amount of coal is needed to obtain the amount of heat necessary to transform a given quantity of ice into water. But we cannot tell what amount of coal is required to create the life energy by the aid of which one living cell forms another living cell. In the same way physical, chemical and mechanical phenomena cannot, by themselves, produce psychological phenomena. Were it otherwise, *a rotating wheel*, by expending a certain amount of energy, or in the course of a certain period of time, would *generate an idea*. Yet we know quite well that a wheel may go on rotating for millions of years, but no *idea* will result from it. We see therefore that phenomena of motion are fundamentally different from the phenomena of life and consciousness.

Phenomena of life pass into other phenomena of life, multiply in them infinitely and *transform themselves into physical phenomena*, producing a whole series of mechanical and chemical combinations. The phenomena of life manifest themselves to us in physical phenomena and in the presence of such phenomena.

Psychological phenomena are experienced directly and, having enormous potential force, pass into physical phenomena and into manifestations of life. We know that at the basis of our procreative force lies *desire*, i.e. a psychological state or a phenomenon of consciousness. *Desire* has a tremendous potential force. A whole people

may be produced by the combined desire of a man and a woman. At the basis of the active, constructive, creative force of man, capable of altering the course of rivers, joining oceans, carving mountains, lies desire, i.e. again a psychological state or a phenomenon of consciousness. Thus psychological phenomena possess a still greater combining power in relation to physical phenomena than do the phenomena of life.

Positivist philosophy asserts that phenomena of life and psychological phenomena arise from one cause *which lies within the sphere of physical studies*. This cause is called by different names at different times, but is presumed to be identical with physical energy in general.

Seriously analysing this assertion, it is impossible to avoid seeing that it is completely arbitrary and unfounded. Within the scope of our being and observation, physical phenomena never produce phenomena of life and consciousness. Therefore we are *more* justified in assuming that phenomena of life and phenomena of consciousness contain something which is absent in physical phenomena.

Further, physical, biological and psychological phenomena cannot be *measured by the same measure*. Or, to be more exact, phenomena of life and phenomena of consciousness cannot be measured by us at all. And it is only the first, i.e. the physical phenomena, that we can assume to be measurable, though even that is very problematic.

At any rate we know without doubt that neither phenomena of life nor psychological phenomena can be expressed by us in the formulae of physical phenomena; and, generally speaking, we have for them no formulae at all.

If we wish to understand more clearly the mutual relationship of these different orders of phenomena, we must examine in greater detail the laws of their transition one into another.

First of all we should consider the physical phenomena and make a detailed study of all the conditions and characteristics of their transition one into another.

In an article on Wundt (*The Northern Messenger*, 1888) A. L. Volinsky, expounding the principles of Wundt's physiological psychology, writes:

The actions of sensation are called the actions of irritation. But these two actions need not be at all equal. One can burn down a whole town by a spark from a cigarette. One should understand why this is possible. Balance a board on the edge of some object, in the manner of scales, and see that it is in equilibrium. Now place equal weights on each end of the board. The

weights will not fall; though they will tend to fall, they will balance each other. Now, if we take off the smallest weight from one end of the board, the other end will overbalance and the board will tip over, i.e. the force of gravity, which existed before as an invisible tendency, will become a visible driving force. But if we place the board with the weights on the ground, the force of gravity will no longer have an effect. Yet it will not be eliminated; it will merely be translated into other forces. The forces which are only *tending to* produce motion are called *constrained* or *dead* forces. The forces which are actually manifesting themselves in definite movements are called free or living forces. But, among the free forces it is necessary to distinguish the releasing, liberating forces from the forces which are released, liberated.

There is an enormous difference between the *liberation* of a force and its *transformation* into another force.

If one form of movement passes into another, the amount of free force remains the same. But, when one force *liberates* another, the amount of free force changes. The free force of irritation releases the constrained forces of a nerve. And this liberation of the constrained forces of a nerve takes place at every point of the nerve. The first motion grows, like a fire, like an avalanche, bearing along with it new and ever new drifts of snow. This is why the action (phenomenon) of sensation need not be exactly equal to the action of irritation.

Let us look more broadly at the relation of the freed and the freeing forces in different kinds of phenomena.

We shall see that, at times, an insignificant amount of physical force can set free an enormous, colossal amount of energy, also physical. But *all the amount of physical force we can gather together* will not set free a single drop of life energy necessary for the independent existence of a microscopic living organism.

The force contained in *living organisms*, the force of life, is capable of liberating infinitely great quantities of energy (compared with the force of motion), both life energy and simply physical energy.

A microscopic living cell is capable of infinite dissemination, of developing into new forms, of covering continents with vegetation, of filling oceans with seaweed, of building islands out of coral, of leaving behind itself vast layers of coal, and so on.

Concerning the latent energy contained in the *phenomena of consciousness*, i.e. in thoughts, in feelings, in desires, we see that the potentiality is still more immeasurable, still more limitless. From personal experience, from observation, from history we know that an idea, a feeling or a desire can, in manifesting, release boundless quantities of energy, create infinite series of phenomena. An idea may act for hundreds and thousands of years and only grow and deepen, producing ever-new series of phenomena, liberating ever-new energy. We know that *thoughts* continue to act and live when the very name of

the man who produced them has become a myth, such as the names of the founders of ancient religions, the creators of immortal poetical works of antiquity, heroes, leaders, prophets. Their works are repeated by innumerable lips, their ideas are analysed, commented on. The works which have been preserved are translated, published, read, learnt by heart, recited, staged, illustrated. And this is so not only with the great masterpieces of universal geniuses. A single little verse may live for thousands of years, making hundreds of men work for it, serve it in order to transmit it further.

Look how much potential energy there is in some small verse of Pushkin or Lermontoff. This energy affects not only men's feelings, but, by its very existence, it affects their will. Look how the words, thoughts and feelings of the semi-mythical Homer go on living - refusing to die - and how much 'motion' each of his words has produced in the course of its existence.

It is quite clear that each thought of a poet contains enormous potential force, similar to the potential power contained in a chunk of coal or in a living cell, but infinitely more subtle, imponderable and potent.

This remarkable correlation of phenomena may be expressed in the following formulation: the further a given phenomenon is removed from the visible and the tangible - from the physical - the further it is from matter, the more it contains of hidden force, the greater the number of phenomena it can produce and involve, the greater the amount of energy it can liberate, and the less it is dependent upon time.

If we connect all the above with the principle of physics that the *amount of energy is constant*, we must specify more precisely that all the preceding statements referred not to the *creation of* new energy, but to the *liberation of* latent energy. Moreover, we have found that the liberating force of life and thought is infinitely greater than the liberating force of mechanical motion and chemical influences. *A microscopic living cell is more powerful than a volcano - an idea is mightier than a geological cataclysm.*

Having established these distinctions between phenomena, let us try to find out what phenomena represent, taken by themselves, independently of our perception and feeling of them.

We shall see at once that we know nothing about this.

A phenomenon is known to the extent that it is an *irritation*, i.e. to the extent that it causes a sensation.

Positivist philosophy sees at the root of all phenomena mechanical

motion or electro-magnetic energy. But the hypothesis of vibrating atoms or of *units of energy* - electrons - and of cycles of motion, different combinations of which create different 'phenomena' - all this is nothing but a hypothesis, based on a totally artificial and arbitrary assumption that the world exists in time and space. If we find that the conditions of time and space are only properties of our sense-perception, we absolutely abolish any possibility of the hypothesis of 'energy' as the foundation of everything; because energy requires time and space, i.e. it requires the conditions of time and space to be the properties of the world and not properties of consciousness. Thus, in reality, we know nothing about the *causes of phenomena*. We know that certain combinations of causes, acting on our consciousness through the medium of the organism, produce a series of sensations which we are aware of as a *green tree*. But whether the representation of the tree corresponds to the real essence of the causes which have evoked these sensations, we do not know.

The question of the relation of a phenomenon to *the thing in itself*, i.e. to the essence contained in it, has been, since very remote times, the main and most difficult problem of philosophy. Can we, by studying phenomena, reach their causes, the very essence of things? Kant said definitely: *No*, in studying phenomena we do not even come nearer to the understanding of a thing in itself. And, recognizing the correctness of Kant's view, if we wish to come nearer to understanding things in themselves, we should seek an entirely new method, a way completely different from the one followed by positivist science which studies events *or phenomena*.

CHAPTER 13

The apparent and the hidden side of life. Positivism as the study of the phenomenal aspect of life. What constitutes the 'two-dimensionality' of positivist philosophy? Envisaging everything on one plane, in one physical sequence. Streams flowing under the earth. What can the study of life, as a phenomenon, give? The artificial world which science builds for itself. The non-existence, in actual fact, of completed and isolated phenomena. A new sense of the world.

There are visible and hidden causes of phenomena, there are visible and hidden effects.

Let us take an example.

In all the text-books on the history of literature it is said that in its time *Werther* produced in Germany an epidemic of suicides.

What did produce these suicides?

Let us now imagine that some 'scientist' appears who, being interested in the fact of increased suicides, begins to study the first edition of *Werther* according to the methods of exact positivist science. He weighs the book, measures it by the most precise instruments, notes down the number of pages, makes a chemical analysis of the paper and the printer's ink, counts the number of lines on each page, the number of letters and the number of punctuation marks and, finally, he calculates how many times the letter A is repeated in *Werther*, how many times the letter B, how many times the question mark, and so on. In a word, he does all that pious Muslims used to do with the Koran of Mohammed. And, on the basis of his investigations he writes a treatise on the relation of the letter A of the German alphabet to suicides.

Let us imagine another scientist who, studying the history of painting, decides to put it on a scientific basis and undertakes a long series of analyses of the pigments used in famous paintings with the object of defining the causes of the different effects produced on us by different paintings.

Let us imagine a savage, 'studying' a watch. Let us suppose that the savage is intelligent and cunning. He has taken the watch to pieces and has counted all the wheels and screws, has counted the number of teeth on each wheel and knows the watch like the palm of his hand. The only thing he does not know is - *what it is for*. Nor does he know

that the hand travels round the dial in twelve hours, i.e. that *one can tell time by the watch*.

All this is 'positivism'.

We are too accustomed to 'positivist' methods and fail to notice that they lead to absurdities and, if we seek *the explanation of the meaning* of something, they completely fail to achieve this.

The truth is that for *explaining the meaning* positivism is no good. Nature is for it a closed book of which it only studies the outer aspect. In the matter of studying the *action* of nature positivist methods go very far, as is proven by all the innumerable achievements of modern technical sciences, including aviation. But everything in the world has its definite sphere of action. Positivism is very good when it seeks an answer to the question *how* something operates in given conditions. But when it attempts to go beyond its definite conditions (time, space and causation), or begins to assert that outside the given conditions nothing exists, it obviously trespasses on a sphere alien to it.

It is true that more serious positivist thinkers deny all possibility of questions 'why' and 'wherefore' in 'positivist investigation'. Positivist philosophy regards the search for *meaning* and purpose as almost an absurdity. There is, of course, more truth in this, because teleology, *from the positivist point of view*, is indeed an absurdity. But as a matter of fact the positivist point of view is not the only one possible. The usual mistake of positivism lies in the fact that it sees *nothing but itself* and either considers everything to be possible for it, or regards as generally impossible many things that are actually quite possible but *not for* positivist study.

However, mankind will never stop seeking answers to the questions *why* and *wherefore*.

In relation to nature a positivist scientist is almost in the same position as a savage in a library filled with valuable rare books. For a savage a book is a *thing* of a certain size and weight. However long he may puzzle over the purpose of this strange thing, he will never understand it by its appearance, and *the content of the book* will remain for him the *unfathomable noumenon*. And the contents of nature are just as unfathomable for a positivist scientist.

But if a man *knows* of the existence of the contents of the book - the *noumenon* of life - if he knows that a mysterious meaning is hidden under visible phenomena, it is possible that, in the end, he will get to the essence of the thing.

For this it is necessary to understand the *idea* of the inner content, i.e. the meaning of the thing in itself.

The scientist who finds tablets with hieroglyphs or wedge-shaped inscriptions in an unknown language, deciphers and reads them after a great deal of work. And in order to read them he needs only one thing: he must know that these signs *represent writing*. As long as he regards them as mere ornament, an external embellishment of the tablets, or an accidental design unconnected with any meaning, their significance and meaning will remain completely closed to him. But as soon as he presupposes the existence of this meaning, the *possibility of grasping* it arises.

Every cipher can be read, even without any key. *But one must know that it is a cipher*. This is the first and indispensable condition. Without it nothing can be done.

The idea of the existence of the visible and the hidden aspects of life has been known to philosophy long ago. Events or *phenomena* were admitted to represent only one side of the world, an *apparent* one, devoid of real existence and coming into being at the moment of our contact with the real world; a side infinitely small as compared with the other side. The other side, *noumena*, were regarded as really existing in themselves, but inaccessible to our perception.

But there can be no greater mistake than to regard the world as *divided* into phenomena and noumena - to take phenomena and noumena as separate from one another, existing independently one from another and as capable of being perceived apart from one another. This is complete philosophical illiteracy, which manifests itself most clearly in dualistic *spiritualistic* theories. The division of phenomena and noumena exists only in our perception. The 'phenomenal world' is merely our incorrect representation of the world.

As Karl du Prel has said, *the world beyond is only this world strangely perceived*. It would be more correct to say that *this world is only the world beyond strangely perceived*.

Kant's idea is quite correct that the study of the phenomenal aspect of the world will not bring us nearer to the understanding of 'things in themselves'. A 'thing in itself is a thing as it exists in itself, *independently of us*. The 'phenomenon of a thing' is the thing in that aspect of it which we perceive. The example of a book in the hands of an illiterate savage demonstrates quite clearly that it is sufficient to be unaware of the existence of the noumenon of a thing (the contents of the book in this case) for it not to manifest itself in phenomena. But the knowledge of its existence is sufficient to open up the possibility

of finding it by means of the very *same* phenomena the study of which would have been utterly useless without the knowledge of the existence of the noumenon.

Just as it is impossible for a savage to come nearer to understanding the nature of a watch by studying the phenomenal aspect of it, i.e. the number of wheels and the number of teeth in each wheel, so in the case of a positivist scientist studying the external, *manifesting* side of life, its secret *raison d'etre* and the *purpose* of separate manifestations will remain forever hidden.

For a savage the watch would be a very interesting, complex, but quite useless toy. Similarly, in the eyes of a scientist-materialist a *man* appears to be a *mechanism* which came into being in an unknown manner, infinitely more complex but no less unknown as regards the purpose of its existence.

We pictured to ourselves how incomprehensible would be the functions of a *candle* and a *coin* for a plane-being, studying two *identical circles* on its plane. To a scientist who studies *man* as a *mechanism*, his functions will be equally incomprehensible. It is clear why this should be so. It is because the candle and the coin are not *two identical circles*, but two quite different objects, having a totally different meaning and use in the world which is *higher* than the plane-world. Similarly, a man is not a *mechanism*, but something having a purpose and meaning in a world *higher* than the visible world.

The functions of the candle and the coin in our world are, for the imaginary plane-being, an inaccessible *noumenon*. It is quite clear that the phenomenon of a *circle* cannot give any idea of the function of the candle and its difference from the coin. But *two-dimensional perception* exists not only on a plane. Materialistic thought tries to apply it to real life. As a result curious absurdities arise, the true meanings of which are, unfortunately, incomprehensible to many people. One of such results is the 'economic man' - quite clearly a two-dimensional plane-being which moves in two directions - those of production and of consumption, i.e. a being living on the plane of *production-consumption*. How is it possible to represent man in general in the form of such an obviously artificial being? And how is it possible to expect to understand the laws of man's life with his complex spiritual pursuits - with the main impulse of his life being desire to *know*, desire to understand everything around him and within him - by studying the imaginary laws of life of an imaginary being on an imaginary plane? The answer to this question remains the secret of the inventors. But the economic theory attracts people as do all simple theories which afford a short answer to a series of long questions. But

we have become much too involved in materialistic theories and see nothing beyond them.

Positivist science does not fundamentally deny the doctrine of phenomena and noumena; it only affirms, in opposition to Kant, that by studying phenomena we gradually approach noumena. The noumena of phenomena are, in the opinion of science, the movements of atoms and of ether, or the vibrations of electrons. Thus science regards the universe as a whirl of mechanical motion or as a field of manifestation of electro-magnetic energy which, on being perceived by the organs of sense, assume for us 'phenomenal colouring'.

Positivism asserts that the phenomena of life and consciousness are merely the functions of physical phenomena and are no more than a certain complex combination of the latter; and further, that all the three kinds of phenomena are actually the same, and the *higher*, i.e. the phenomena of life and consciousness, are nothing but different manifestations of the *lower*, i.e. of one and the same physico-mechanical or electro-magnetic energy.

But one argument can be advanced against all this. If this were true, it would have been proven long ago. Nothing is easier than to prove the energetic hypothesis of life and consciousness. All that is needed is to obtain *life* or *consciousness* by mechanical means. Materialism or energetics are 'concrete' theories which *cannot be true without proof* because they cannot fail to have proofs if they contain even a grain of truth.

But in actual fact these theories have no proofs; on the contrary, the infinitely greater potentiality of phenomena of life and mental processes as compared with physical phenomena points to exactly the opposite.

The above-mentioned fact of the tremendous liberating, releasing power of psychological phenomena is by itself sufficient to place the problem of the *world of the hidden* on an entirely real and firm basis.

And the world of the hidden cannot be the world of unconscious mechanical motion, of an unconscious development of electro-magnetic forces. Positivist theories admit the possibility of explaining the *higher* by means of the *lower*, they admit the possibility of explaining the *invisible* by means of the *visible*. But, as has been pointed out in the beginning, this is an attempt to explain one unknown by means of another unknown. There is still less justification in explaining the *known* by means of the *unknown*. And yet that 'lower' (matter and

motion) by means of which the positivist theory attempts to explain the 'higher' (life and thought) *is itself unknown*. Consequently it is impossible to explain anything else by *it*. On the other hand, the higher, i.e. *thought*, is the only quantity we possess, the only thing we know and are aware of in ourselves, the only thing about which we cannot be mistaken or have any doubts. And, since thought can evoke and *release* physical energy, whereas motion can *never* evoke or release thought (a rotating wheel can never evoke thought), it obviously follows that we must strive to define not the higher by means of the lower, but the lower by means of the higher. And, since the invisible, such as the *contents of a book* or the *purpose of a watch*, defines the visible, we must also strive to understand not the visible, but the invisible.

Starting from the false assumption of the *mechanical* character of the noumenal aspect of nature, positivist science, on which the view of the world of the majority of modern educated humanity is founded, makes yet another mistake in examining the law of cause and effect or the law of function - namely, it mistakes what is cause for what is effect.

Just as the two-dimensional plane-being regards the phenomena which reach its consciousness as lying on one plane, so the positivist view strives to interpret on one plane all phenomena of different orders, i.e. to explain all visible phenomena as effects of other visible phenomena and as the inevitable cause of subsequent visible phenomena. In other words, it regards as having causal and functional interdependence only those phenomena which take place on the surface, and it studies the visible world or the phenomena of the visible world, refusing to admit that causes not contained in this world could have penetrated into it or that phenomena of this world could have functions outside it.

But again this could be true only if this world contained no phenomena of life and thought, or if phenomena of life and of mental processes were actually *derivatives* from physical phenomena instead of being endowed with an infinitely greater hidden force than the latter. Then we would have been justified in examining the chains of phenomena only in their physical or visible sequence, as positivist philosophy does. But if we take into consideration the phenomena of life and thought, we are forced to admit that the chain of phenomena very quickly passes from a purely physical sequence into a biological sequence, i.e. one which already contains much that is hidden and invisible to us, or to a psychological sequence where still more is hidden.

We must admit too that in the reverse transition into the physical sequence from the biological and the psychological spheres actions proceed, often if not always, precisely from those sides which are hidden from us, i.e. that the cause of the visible is the invisible. As a result we are bound to admit that it is impossible to consider chains or sequences solely in the world of physical phenomena. When such a sequence touches the life of a man or that of a human community, we see clearly that it often goes out of the 'physical sphere' and then once more returns to it. Looking at the matter from this point of view we shall see that both in the life of an individual man and in the life of a human community there are many streams which at times emerge upon the surface, breaking through in boisterous torrents, and at times go deep underground and become hidden from view, not disappearing altogether, but merely biding their time to emerge once more upon the surface.

We observe in the world continuous chains of phenomena and we see these chains pass from one order of phenomena to another without interruption. We see how phenomena of consciousness - thoughts, feelings, desires - are accompanied by physiological phenomena, possibly even creating them, and give rise to a series of purely physical phenomena; and we see how physical phenomena, in becoming the object of sensations of sight, hearing, touch, smell and others, provoke physiological phenomena, and then psychological. But, looking at life from outside, we only see physical phenomena and, having persuaded ourselves that they alone represent reality, we may not notice the others at all. Here is where the enormous power of suggestion of current ideas makes itself felt. To a sincere positivist every metaphysical argument proving the unreality of matter or energy seems sophistry. To him it seems something unnecessary, annoying, interfering with the proper progress of thought, a senseless and aimless attack against that which, in his opinion, is alone firmly established, is alone immutable and lies at the foundation of everything. He impatiently waves away 'idealistic' and 'mystical' theories as he would a buzzing mosquito. . . .

But the fact of the matter is that *thought* and *energy* are different in their essence and cannot be *one and the same thing* because they are different aspects of the same thing. If we were to open the skull of a living man and see all the vibrations in the cells of the grey matter of the brain and all the quiverings of the white matter, it would still be only motion, i.e. manifestations of energy, and thought would remain somewhere beyond the field of investigation, receding from it at every approach, like a shadow. When he begins to realize this, a

'positivist' feels the ground crumbling under his feet, feels that by this method he will *never* come nearer to *thought* And he sees clearly the necessity of a new method *The mere thought of this* makes him suddenly notice all around him things he had not noticed before His eyes become open to things which formerly he refused to see Walls, which he had built round himself begin to crumble one after the other and, beyond the crumbling walls, infinite vistas of hitherto undreamt-of possible *knowledge* begin to unfold before his eyes

And then he completely alters his view of everything surrounding him He realizes that the *visible* is produced by the *invisible*, and that, without understanding the invisible, it is impossible to understand the visible His 'positivism' begins to totter, and if he is a man of *daring thought*, then one fine day he will see that precisely that which he considered real and true is unreal and false, whereas what he regarded as false is real and true

He sees, first of all, that *manifested* physical phenomena often disappear from view, like a stream gone underground But they do not vanish completely, they continue to live in a latent form in some minds, in someone's memory, in some people's words or in books, just as the future harvest is latent in the seed And then they again burst out into the open, pass from the latent to the manifest, producing noise, uproar, motion

We witness these transitions of the invisible into the visible in a man's personal life, in the life of peoples, in the history of mankind These chains of events go on continuously, interwoven among themselves, interpenetrating one another, disappearing at times from our view, and reappearing once again

I find an admirable description of this idea in the chapter on 'Karma' in *Light on the Path* by Mabel Collins

Consider with *me* that the individual existence is a rope which stretches from the infinite to the infinite, and has no end and no commencement, neither is it capable of being broken The rope is formed of innumerable fine threads, which, lying closely together, form its thickness And remember that the threads are living - like electric wires, more, are like quivering nerves

But eventually the long strands, the living threads which in their unbroken continuity form the individual, pass out of the shadow into the shine

This illustration presents but a small portion - a single side of the truth it is less than a fragment Yet, dwell on it, by its aid you may be led to perceive more What it is necessary first to understand is not that the future is arbitrarily formed by any separate acts of the present, but that the whole of the future is an unbroken continuity with the present, as the present is with

the past. On one plane, from one point of view, the illustration of the rope is correct.*

The quoted passage shows us that the idea of Karma, evolved in remote antiquity by Hindu philosophy, is the idea of the unbroken sequence of phenomena. Each phenomenon, however small, is a link in the endless and unbroken chain, stretching from the *past* into the *future*, passing from one sphere into another, now *appearing* in the guise of physical phenomena, now disappearing in the phenomena of consciousness.

If we examine the idea of Karma from the standpoint of our theory of time and space of many dimensions, the *interconnection of separate events* will cease to appear to us miraculous and incomprehensible. Since events, even the most distant from one another in time, *are in contact with the fourth dimension*, this means that, in reality, they take place simultaneously, as cause and effect. And the walls dividing them are nothing more than an illusion which our weak mind is unable to overcome. Things are linked together not by time but by an inner connection, an inner relationship. And time cannot separate things which are inwardly close and follow one from another. Certain other properties of these things make them appear to us divided by the ocean of time. But we know that this ocean has no *real* existence and we begin to understand how and why events of one millennium can have a *direct* influence on the events of another millennium.

The hidden activity of events becomes clear to us. We understand that, in our eyes, events must become hidden in order to preserve for us the illusion of time.

This we know, that today's events were yesterday's ideas and feelings, and tomorrow's events lie today in some person's irritation, someone's hunger, someone's suffering and maybe still more in someone's imagination, someone's fantasy, someone's dreams. We know all this, and yet our 'positivist' science stubbornly continues only to see the sequence of visible phenomena, i.e. regards each visible or physical phenomenon as the effect of *only* another physical phenomenon, just as visible.

This tendency to see everything on one plane, this reluctance to recognize anything outside that plane, narrows our view so terribly that it prevents us from grasping life in its entirety. Together with the materialistic attempts to explain the *higher* as a function of the *lower*, it is the chief obstacle to the development of our knowledge, the main

* Mabel Collins, *Light on the Path and Karma*, Theosophical Publishing House, London and New York, 1912, reprinted 1936, pp. 96-8.

cause of dissatisfaction with science, of complaints about the bankruptcy of science and of its actual bankruptcy in many respects.

Dissatisfaction with science is well grounded and complaints of its insolvency are perfectly justified, because science has actually come to an impasse from which there is no way out, and it is only a matter of time before it is openly admitted that its main tendencies have led it completely astray.

We may say - not as a supposition but as a definite affirmation -that the world of physical phenomena represents as it were a section of another world, which also exists *here*, and the events of which take place *here*, but invisibly to us. Nothing is more miraculous and supernatural than life. Take a street of a large town, in all its details, and you will get an enormous diversity of facts. But how much is hidden behind these facts and cannot be seen at all! How many desires, passions, greedy and covetous thoughts, how much suffering both petty and great, how much deceit, falsity, lies, how many invisible threads - sympathies, antipathies, interests - linking this street with the whole world, with all the past and all the future. If we picture all this to ourselves we shall see clearly that a street cannot be studied merely by *what is visible*. We must probe deeper. The complex and vast *phenomenon* of the street will not reveal its infinite noumenon, connected both with eternity and with time, with the past, with the future and with the whole world.

Consequently we have every right to regard the visible phenomenal world as a section of some other world, infinitely more complex, which at a given moment is manifesting itself for us in the first one.

This world of noumena is infinite and incomprehensible for us, just as the three-dimensional world in all the variety of its functions is incomprehensible for the two-dimensional being. The nearest approximation to 'truth' possible for man is contained in the formulation: *each thing has an infinite variety of meanings, and to know all these meanings is impossible*. In other words, 'truth' as we understand it, i.e. the *finite definition*, is possible only in a finite series of phenomena. In an *infinite* series it is bound, somewhere, to become its own opposite.

This last thought was expressed by Hegel: 'Every idea, extended to infinity, becomes its own opposite.'

It is precisely this *change of meaning* which is the reason why the noumenal world is incomprehensible for man. The essence of a thing, i.e. the thing in itself, is contained in the infinite number of

functions and meanings of the thing which cannot be grasped by our mind. And it is also contained in the change of meaning of one and the same thing. In one meaning the thing is an enormous whole including a great number of parts; in another meaning it is an insignificant part of a vast whole. Our mind cannot bind all that into one;

therefore the *essence of the thing* withdraws from us as we strive to know it, fleeing before us like a shadow. *Light on the Path* says: 'You will enter the light, but you will never touch the flame.'

This means that *every knowledge* is conditional. We can never embrace *all the meanings* of any one thing, because in order to do that we must embrace *the whole world* with all the variety of *its own* meanings.

The chief difference between the phenomenal and the noumenal aspects of the world consists in the fact that the former is *always limited*, always finite, embracing those properties of a given thing which we can generally know as *phenomena*; the latter, the noumenal aspect, is always unlimited, *always infinite*. And we can never know the end of the hidden functions and the hidden meaning of any given thing. Properly speaking, they do not end at all. They can change endlessly, i.e. appear different and for ever new from new points of view, but they cannot disappear any more than they can end or stop.

All that is highest in the understanding, to which we may come, of the essence, the meaning, the *soul* of a given phenomenon, from another, a still higher point of view, in a still wider generalization, will *again* have a different meaning. *And there is no end to it!* This is the majesty and the terror of *infinity!*

Moreover, we must remember that the world as we know it does not represent anything stable. It must change with the slightest change in the forms of our perception. Phenomena which appear to us totally unrelated may be seen by another, wider consciousness as parts of one whole. Phenomena which appear to us completely identical may look totally different. Phenomena which appear to us as something whole and indivisible may in reality be very complex, including in themselves very varied elements which have nothing in common with one another. And everything together may form one whole, but in a category quite incomprehensible to us. Therefore, side by side with our view of things, another view is possible - a view as it were from another world, from *'over there'*, 'from that which lies on the other side'.

But 'over there' signifies not another place, but another method of

perception, a new understanding. And we shall begin to look *not from here* but from *over there* if we regard a phenomenon not as something isolated, but in conjunction with all the chains intersecting in it.

CHAPTER 14

The voices of stones. The wall of a church and the wall of a prison. The mast of a ship and a gallows. The shadow of a hangman and the shadow of a saint. The soul of a hangman and the soul of a saint. The different combinations of phenomena known to us in higher space. The connectedness of phenomena which seem to us separate, and the difference between phenomena which appear to be similar. How should we approach the noumenal world? The understanding of things outside the categories of time and space. The reality of a great many 'figures of speech'. The occult understanding of energy. The letter of a Hindu occultist. Art as the cognition of the noumenal world. What we see and what we do not see. Plato's dialogue about the cave.

It seems to us that we see something and understand something. But in actual fact we have but a very dim sense of all that is happening around us, just as a snail has a dim sense of the sunlight, the rain, the darkness.

At times we dimly feel in things the difference resulting from their functions, i.e. their REAL difference.

Once I was crossing the Neva in a boat with my friend A. with whom, before this and later, I had many conversations on the subjects touched on in this book. We had been talking, but approaching the fortress we both fell silent, looking at the walls and probably thinking more or less, the same thoughts. There are factory chimneys too!' said A. And indeed from behind the fortress there rose brick chimneys with smoke-blackened tops.

And suddenly, as he said it, I had an *incredibly vivid* sensation of the *difference* between factory chimneys and prison walls, a sensation that was like a blow or an electric shock. I sensed the difference of *the very bricks*. And it seemed to me that A. had the same sensation.

Later, in a conversation with A. I recalled this episode, and he told me that not only then, but *always* he had sensed this difference and was deeply convinced of its reality. 'Only positivism is convinced that a stone is a stone and nothing more,' he said. 'But any uneducated woman or a child knows quite well that a stone from the wall of a church or a stone from the wall of a prison are different things.'

Thus it seems to me that, in examining a given phenomenon in connection with all the chains of consequences of which it is a link, we shall find that the *subjective sensation* of the differences between

two physically identical objects, which we often regard as mere poetic imagery, a *metaphor*, the reality of which we deny - is entirely real; we shall see that these objects actually *are different*, as different as a candle and a coin which look like identical circles (moving lines) in the two-dimensional world of plane-beings. We shall then see that objects identical as regards the material of which they consist, but different as regards their functions, are *really different*, and that this difference goes so deep that it even makes the seemingly identical material physically *different*. There are DIFFERENT STONES, DIFFERENT IRON, DIFFERENT WOOD, DIFFERENT PAPER. No chemistry will ever detect this difference. Nevertheless it exists, and there are people who feel and understand it.

The mast of a ship, a gallows, a cross at the cross-roads in the steppe may be made of the same kind of wood, but in reality they are *different* objects made of *different material*. That which we see, touch, investigate are only the 'circles on the plane' made by the coin and the candle. They are nothing but the *shadows* of real things, *the essence of which lies in their function*. The shadows of a sailor, a hangman and a saint may be completely identical - it is impossible to distinguish them by their shadows just as it is impossible to distinguish the wood of the mast, the gallows and the cross by chemical analysis. Nevertheless they are different men and different objects - it is *only the shadows* that are equal and alike.

And if we take men as we know them - the sailor, the hangman and the saint - men who seem to us similar and *equal*, and examine them from the point of view of their different functions, we shall see that, in actual fact, they are totally different and have nothing whatever in common. They are different beings, belonging to different categories, different planes of the world between which there are no bridges or ways of communication. These men seem to us alike and equal because, in general, we see only the shadows of real facts. In reality, the 'souls' of these men are totally different, and different not in quality, not in magnitude, not in their 'age' as people prefer to put in now, but different *in their very nature, their origin and the purpose of their existence* - just as objects differ when they belong to completely different categories.

When we begin to understand this, the general concept *man* must undergo a great change in us.

And this relation is repeated in the observation of all phenomena. A mast, a gallows and a cross are things of such different categories, atoms of such different bodies (which we know by their functions), that there can be no question of *any* similitude between them. Our

misfortune is that we regard the chemical composition of a thing as its *most real* attribute, whereas real attributes should be sought in the functions of a thing. Should we acquire the possibility of broadening and deepening our view of the chains of causation the links of which are our actions and our behaviour; should we learn to take them not only in their narrow meaning in relation to the life of man, to *our own* life, but in a wide cosmic meaning; should we succeed in finding and establishing the connection between the simple phenomena of our life and the life of the cosmos, then, undoubtedly, we should find in the 'simplest' phenomena an infinity of the new and the unexpected.

For instance, we should be able to learn in this way something entirely new about simple physical phenomena which we are accustomed to regard as natural and explicable, and concerning which we take it for granted that we know something. But, quite unexpectedly, we may find that we know nothing, that everything we have previously known is only a wrong deduction from wrong premises. Something infinitely vast and immeasurably significant may become revealed to us in such phenomena as the expansion and contraction of solids, electrical phenomena, heat, light, sound, the movement of planets, the coming of day and of night, the succession of seasons, a thunderstorm, heat-lightning, and so on. In general, we may suddenly and most unexpectedly find explanations of the properties of phenomena which we used to accept as something known and containing nothing beyond what we see in them.

The constancy, duration, periodicity or non-periodicity of phenomena may acquire for us an entirely new meaning and significance. Much that is new and unexpected may open up for us in the *transition* of one phenomenon into another. Birth, death, a man's life, his relationship with other men, love, enmity, sympathies, antipathies, desires, passions may suddenly appear in quite a new light. It is difficult for us to imagine at the present moment the nature of this *newness* which it is possible for us to feel in old familiar things; and, once we begin to feel it, it will be very difficult to understand. But in reality it is only our incapacity to feel and understand this '*newness*' which separates us from it, for we *live* in it and in the midst of it. But our senses are too primitive, our ideas too crude for a subtle differentiation of phenomena which should become revealed to us in higher space. Our mind, our capacity for association, is insufficiently flexible to grasp new correlations. Consequently, the first feeling brought by our acquaintance with 'that world' (i.e. the same world of ours, only taken without the limitations under which we usually view it), should be the feeling of *wonder*, and this wonder should grow,

becoming greater and greater as acquaintance with it becomes better. And the better we know a thing or a certain correlation of things, the closer, the more familiar they are to us, the greater will be our wonder and the more shall we discover in them of the *new* and the unexpected.

Wishing to understand the *noumenal world*, we must seek a *hidden meaning* in everything. At present we are too deeply rooted in the positivist method with its tendency to seek in everything a *visible* cause and a *visible* effect. And this weight of positivistic habits makes the understanding of certain ideas extremely difficult. Among other things it is extremely hard for us to understand the *reality of the difference* in the noumenal world between objects which are similar in our world but which have different functions.

However, if we want to approach to an understanding of the noumenal world, we must strive with all our might to *notice* all those apparent, 'subjective' differences between objects, which occasionally strike us and which sometimes we feel so *painfully clearly*, those differences which are expressed in the imagery of art and which give glimpses of the world of realities. These differences *are* the realities of the noumenal world, much more real than all the *maya* of our phenomena.

We should strive to notice these realities and develop in ourselves the capacity to sense them, because it is precisely in this way (and only in this way) that we enter into communion with the noumenal world or the *world of causes*.

I find a very interesting example of the understanding of the *hidden* meaning of phenomena in the book *The Occult World* contained in the letter of a Hindu occultist to the author of the book, A. P. Sinnett:

We see a vast difference [he writes] between the two qualities of two equal amounts of energy expended by two men, one of whom, let us suppose on his way to his daily quiet work, and another on his way to denounce a fellow-creature at the police station, while the men of science see none; and we - not they - see a specific difference between the energy in the motion of the wind and that of a revolving wheel. . . .

Every thought of man upon being evolved passes into the inner world, and becomes an *active entity* by associating itself, coalescing we might term it, with an elemental - that is to say, with one of the semi-intelligent forces of the kingdoms.*

* A. P. Sinnett, *The Occult World*, London and New York, Theosophical Society, reprinted 1906.

If, for the moment, we leave aside the last part of this quotation and take only the first part, we shall see that, certainly, the 'man of science' does not admit the difference in the quality of energy expended by two men walking - one to his work and the other to denounce someone. For science this difference is not discernible. Science does not feel it and does not recognize it. But perhaps in an actual fact this difference is even deeper and consists not only in the difference between kinds of energy but in the difference between the *men*, one of whom may develop energy of one kind and another energy of another kind. And we possess a *form of perception* which senses this difference perfectly, understands it and knows it. I am speaking of art. A musician, a painter, a sculptor understand perfectly that it is *possible* to walk differently; more than that, that it is *impossible* to walk in the same way. A workman and an informer *walk* differently.

The best person to understand this, at least he should best understand it, is an *actor*.

A poet understands that the mast of a ship, a gallows and a cross *are made of different wood*. He understands the difference between a stone from the wall of a church and a stone from the wall of a prison. He hears* the voices of stones', understands the language of ancient walls, of burial mounds, of ruins, rivers, woods and plains. He hears *the voice of the silence*, understands the psychological difference of silences, realizes that *silence may be different*. And this *poetical* understanding of the world should be developed, strengthened and fortified, because only through it do we come into touch with the truly real world. And in the real world, behind phenomena which seem to us the same, there are often concealed noumena so different that only our blindness can account for our idea of the similarity of these phenomena.

One of the ideas which must thus prove false is the current idea of the similarity and equality of men. In actual fact the difference between the 'hangman', the 'sailor' and the 'saint' is not an accidental difference of position, status and heredity, as materialism endeavours to persuade us, and not the difference between different degrees of one and the same evolution, as theosophy asserts, but a deep and unbridgeable difference, such as exists between murder, labour and prayer, belonging to entirely different worlds. The representatives of these worlds can appear to us similar men only because we actually see not them but merely their shadows.

It is necessary to make ourselves accustomed to the thought and to establish firmly the fact that this difference is not in the least meta-

physical but perfectly real, more real in fact than many *visible* differences of things and phenomena.

Actually, all art consists in understanding and representing these elusive differences. For an artist the phenomenal world is merely material - just as colours are for the painter and sounds for the musician; it is only a means for the understanding, and the expression of his understanding, of the noumenal world. At our present stage of development we possess no other means for the perception of the world of causes, which is as powerful as the one contained in art. The mystery of life consists in the fact that the *noumenon*, i.e. the hidden meaning and the hidden function of a thing, is reflected in its *phenomenon*. The phenomenon is the reflection of the noumenon in our sphere. THE PHENOMENON IS AN IMAGE OF THE NOUMENON. And by the phenomenon it is *possible* to know the noumenon. Only here chemical reagents and the spectroscope will accomplish nothing. The reflection of the noumenon in the phenomenon can be sensed and understood only by that subtle apparatus which is called the *soul of the artist*. 'Occultism' - the hidden side of life - should be studied in art. An artist must be a *clairvoyant*, he must see that which others do not see. And he must be a *magician*, must possess the gift of making others see what they do not see by themselves, but what he sees.

Art sees more and further than we do. It was pointed out earlier that, on the whole, we do not see anything, we only *grope*, and consequently we fail to notice those differences between things which do not express themselves physically or chemically. But art is already a *beginning of vision*. It sees much more than the most perfect apparatus; and it senses the infinite invisible facets of the crystal, one of which facets we call man.

'The truth is that this earth is the scene of a drama of which we only perceive scattered portions, and in which the greater number of actors are invisible to us while we are inside our bodies.'

Thus speaks the theosophical writer, Mabel Collins, the author of *Light on the Path*, in a small book. *Illusions**. And this is very true; we see extraordinarily little.

But art goes further than ordinary human vision; consequently there are sides of life of which only art has the right to speak.

A remarkable attempt to portray our relation to the 'noumenal world', to that 'great life', is contained in the 'Dialogue of the Cave', in the VIIth book of Plato's *Republic*.**

* Mabel Collins, *Illusions*, Theosophical Society, London, 1905. ** *The Republic of Plato*, trs. Benjamin Jowett, book VII, Oxford, 1908.

Behold' human beings living in an underground den, which has a mouth open towards the light and reaching all along the den, here they have been from their childhood, and have their legs and necks chained so that they cannot move, and can only see before them, being prevented by the chains from turning round their heads Above and behind them a fire is blazing at a distance, and between the fire and the prisoners there is a raised way, and you will see, if you look, a low wall built along the way, like the screen which marionette players have in front of them, over which they show the puppets

And do you see, I said, men passing along the wall carrying all sorts of vessels, and statues and figures of animals made of wood and stone and various materials, which appear over the wall? Some of them are talking, others silent

You have shown me a strange image, and they are strange prisoners

Like ourselves, I replied, and they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the cave?

True, he said, how could they see anything but the shadows if they were never allowed to move their heads?

And of the objects which are being carried in like manner they would only see the shadows?

Yes, he said

And if they were able to converse with one another, would they not suppose that they were naming what was actually before them?

Very true

And suppose further that the prison had an echo which came from the other side, would they not be sure to fancy when one of the passers-by spoke that the voice which they heard came from the passing shadow?

No question, he replied

To them, I said, the truth would be literally nothing but the shadows of the images That is certain

And now look again, and see what will naturally follow if the prisoners are released and disabused of their error At first, when any of them is liberated and compelled suddenly to stand up and turn his neck round and walk and look towards the light, he will suffer sharp pains, the glare will distress him, and he will be unable to see the realities of which in his former state he has seen the shadows, and then conceive someone saying to him, that what he saw before was an illusion, but that now, when he is approaching nearer to being and his eye is turned towards more real existence, he has a clearer vision, - what will be his reply? - will he not be perplexed? Will he not fancy that the shadows which he formerly saw are truer than the objects which are now shown to him?

Far truer

And if he is compelled to look straight at the light, will he not have a pain in his eyes which will make him turn away to take refuge in the objects of vision which he can see, and which he will conceive to be in reality clearer than the things which are now being shown to him?

True, he said

And suppose once more, that he is reluctantly dragged up a steep and

rugged ascent, and held fast until he is forced into the presence of the sun himself, is he not likely to be pained and irritated? When he approaches the light his eyes will be dazzled, and he will not be able to see anything at all of what are now called realities

Not all in a moment, he said

He will require to grow accustomed to the sight of the upper world And first he will see the shadows best, next the reflections of men and other objects in the water, and then the objects themselves

Last of all he will be able to see the sun

He will then proceed to argue that this is he who gives the season and the years, and is the guardian of all that is in the visible world, and in a certain way the cause of all things which he and his fellows have been accustomed to behold?

And when he remembered his old habitation, and the wisdom of the den and his fellow-prisoners, do you not suppose that he would felicitate himself on the change, and pity them?

Certainly, he would

And if they were in the habit of conferring honours among themselves on those who were quickest to observe the passing shadows and to remark which of them went before, and which followed after, and which were together, and who were therefore best able to draw conclusions as to the future, do you think that he would care for such honours and glories, or envy the possessors of them? Would he not endure anything, rather than think as they do and live after their manner?

Yes, he said, I think that he would rather suffer anything than entertain these false notions and live in this miserable manner

Imagine once more, I said, such a one coming suddenly out of the sun to be replaced in his old situation, would he not be certain to have his eyes full of darkness?

And if there were a contest, and he had to compete in measuring the shadows with the prisoners who had never moved out of the den, while his sight was still weak, and before his eyes had become steady (and the time which would be needed to acquire this new habit of sight might be very considerable), would he not be ridiculous? Men would say of him that up he went and down he came without his eyes, and if anyone tried to loose another and lead him up to the light, let them only catch the offender, and they would put him to death

No question, he said

This entire allegory, I said, you may now append, dear Glaucon, to the previous argument, the prison-house is the world of sight, the light of the fire is the sun, and you will not misapprehend me if you interpret the journey upwards to be the ascent of the soul into the intellectual world

Moreover, I said, you must not wonder that those who attain to this beatific vision are unwilling to descend to human affairs, for their souls are ever hastening into the upper world where they desire to dwell

And is there anything surprising in one who passes from divine contemplations to the evil state of man, misbehaving himself in a ridiculous manner?

Anything but surprising, he replied

Anyone who has common sense will remember that the bewilderments of

the eyes are of two kinds, and arise from two causes, either from coming out of the light or from going into the light, which is true of the mind's eye, quite as much as of the bodily eye; and he who remembers this when he sees anyone whose vision is perplexed and weak, will not be too ready to laugh; he will first ask whether that soul of man has come out of the brighter life, and is unable to see because unaccustomed to the dark, or having turned from darkness to the day is dazzled by excess of light. And he will count the one happy in his condition and state of being, and he will pity the other. . . .

CHAPTER 15

Occultism and love. Love and death. Different attitudes to problems of death and problems of love. What is lacking in our understanding of love? Love as an everyday and a psychological phenomenon. Possibility of a religious understanding of love. The creative force of love. The negation of love. Running away from love. Love and mysticism. The 'miraculous' in love. Nietzsche and Edward Carpenter on love.

There is no side of life which does not reveal to us an infinity of the new and the unexpected if we approach it with the *knowledge* that it is not exhausted by its visible side, that behind this visible side there lies a whole world of the 'invisible', a whole world of new and incomprehensible forces and relations. The *knowledge* of the existence of the invisible world is the first key to it.

Especially many new things are revealed to us in the most mysterious aspects of our existence, in those aspects through which we come into direct contact with *eternity* - in Love and in Death. And in Hindu mythology Love and Death are the two faces of *one deity*. Shiva, the god of the reproductive force in nature, is at the same time the god of violent death, murder and destruction. His wife Parvati is the goddess of beauty, love and happiness, and she is also Kali or Durga - the goddess of evil, misfortune, sickness and death. And Shiva and Kali together are gods of wisdom, gods of the knowledge of good and evil.

In the beginning of his book *The Drama of Love and Death*, Edward Carpenter defines very well our relation to those profoundly incomprehensible and mysterious aspects of being: 'Love and Death move through this world of ours like things apart - underrunning it truly, and everywhere present, yet seeming to belong to some other mode of existence.' And further:

These figures. Love and Death, move through the world, like closest friends indeed, never far separate, and together dominating it in a kind of triumphant superiority; and yet like bitterest enemies, dogging each other's footsteps, undoing each other's work, fighting for the bodies and souls of mankind.*

* Edward Carpenter, *The Drama of Love and Death*, London, George Allen, 1912.

These few words reveal the depths of the mystery which faces us, envelops us, creates us and destroys us. But men's relationship to the two sides of this mystery is not the same. Strange as it may seem, *the face of death* has had a greater attraction for the mystical imagination of men, than *the face of love*. There has always been a great urge to understand and define the hidden meaning of death; all religions, all creeds begin by giving man one or another view of death. It is impossible to build any philosophy of life without one or another definition of death. And a great many philosophies of life, as for instance the modern spiritualism, consist entirely of 'views on death', of a doctrine about death and life after death. (In one of his articles V. V. Rosanoff says that, on the whole, *all religions are teachings about death*.)

But the problem of love is usually accepted in modern philosophies of life as something given, something already understood and known. Different systems introduce comparatively few differences into the understanding of love. And, although in reality love is for us as great a mystery as death, for some reason we notice it much less forcibly. We have evolved a series of stereotyped views on love, and men meekly accept one or another of these stereotyped views. Art, which from its very nature should have much to say on the subject, pays great attention to love; love has perhaps always been and is the principal subject of art. But even it limits itself, on the whole, to mere descriptions and a psychological analysis of love, rarely touching the depths of love, that contact with the eternal and the infinite which it holds for man.

In reality love is a *cosmic phenomenon*, in which people, mankind, are merely accidental; a cosmic phenomenon as little concerned with either the lives or the souls of men as the sun is concerned in shining so that, by its light, men may go about their trivial affairs and use it for their own ends. If men could understand this, be it only with one pan of their consciousness, a new world would open up before them and it would become very strange for them to look at life from all the usual angles.

They would understand then that love is something quite different, and of a different order from the small events of earthly life.

Perhaps it is a world of special spirits which at times take possession of men, subjugating them, making tools of them for the accomplishment of their own incomprehensible aims. Maybe it is some particular region of the inner world, which the souls of men happen to enter at times and where, in that case, they live according to the laws of *that* world, while their bodies remain on earth, bound by the

laws of the terrestrial world. Perhaps it is the alchemical work of the Great Master, in which the souls and bodies of men play the part of elements out of which is evolved the *philosopher's stone* or the *elixir of life*, or some special *electricity*, necessary to someone for some mysterious purposes.

Love, in relation to our life, is a Deity, now stern, now benevolent, but never submitting to us, never consenting to serve our aims. Men strive to subjugate love to themselves, to force it to serve their aims, both spiritual and material. But love cannot be subjugated to anything and it wreaks merciless vengeance on the puny mortals who strive to subjugate *God* to serve their own ends. It confuses all their calculations and makes them do what they have never expected. It forces them to serve *it*, to do what *it* wants.

Mistaken about the *origin of love*, men are mistaken about its *result*. Both positivist and spiritualist morality equally admit only one possible result of love - children, the propagation of species. But this objective result, which may or may not happen, is in any case only the result of the external, objective side of love, of the material fact of impregnation. If one does not see in love anything beyond the material fact and the desire for it, this is how it should be. But in reality love does not in any way consist of the material fact, and results of love, apart from the material, may manifest themselves on quite a different plane. This different plane in which love operates, and the ignored, hidden results of love are not difficult to understand even from a strictly positivist, scientific point of view.

For science, studying life, as if apart from it, the purpose of love consists in the continuation of life. To be more exact, *love* is a link in the chain of facts which maintain the uninterrupted flow of life. And the force which mutually attracts the two sexes acts in the interests of the propagation of species and is created by the very forms of the propagation of species. But if we regard love from this standpoint, we shall have to admit that there is *more of this force than is necessary*. It is precisely in this that lies the key to the true essence of love. There is more of this force than is necessary, infinitely more. In reality, for the purposes of the propagation of species only a *small fraction of one per cent* of this force of love inherent in humanity is utilized. Where, then, does the main part of the force go?

We know that nothing can disappear. If energy *exists*, it must *pass* into something. And if only a negligible fraction of energy goes towards the creation of the future *by means of birth*, the remaining part must also go towards the creation of the future, but by other means. We know in the physical world many instances when the *direct func-*

tion is fulfilled by an extremely small fraction of the energy expended, while the greater part of this energy seems to be uselessly wasted. But of course this greater part of energy does not disappear, does not vanish, but produces other results, quite distinct from the direct function.

Let us take an ordinary candle. It should give light. But it gives much more heat than light. Light is the direct function of the candle, heat is the indirect function, but there is more heat than light. A candle is a furnace adapted for lighting. In order to give light, the candle must burn. Burning is the necessary condition for obtaining light from a candle; burning cannot be done away with. But this same burning produces heat. It seems, at the first glance, that the heat, produced by a candle, is wasted unproductively and is at times even superfluous, unpleasant and hindering: if a room is lighted by candles it becomes too hot. But the fact of the matter is that light is obtained *from a candle* only owing to its burning - the evolution of heat and the incandescence of the gases evolved. The same applies to love. We say that only an insignificant part of the energy of love goes to create *progeny*, the greater part seems to be spent by fathers and mothers on their personal emotions. But that is how it should be. Without this expenditure the principal thing could not be obtained. Only *because* of these, at first sight, collateral results of love, because of all this whirl of emotions, feelings, agitations, desires, thoughts, fantasies, inner creations, only because of the *beauty* which creates, can love fulfil its direct function.

Moreover, and this perhaps is most important of all, superfluous energy is not in any way wasted but passed into other forms of energy. And we are able to trace which they are. Generally speaking, the significance of indirect results may often be much more important than the significance of direct results. And we can trace how the energy of love passes into instincts, into the power of ideas, into creative force on different planes of life, into images of art, into songs, sounds, music, poetry. And we can easily imagine the same energy passing into intuition of a higher order, into higher consciousness which will open up for us a mysterious and miraculous world.

In all living nature (and maybe even in that which we regard as dead) *love* is a force inciting creative activity in the most varied directions.

In springtime, with the first awakening of the emotions of love, birds begin to *sing and to build nests*. Naturally, a positivist will try to find a simple explanation for all that; singing is to attract the females or the males and so on. But even a positivist will not be able to deny that there is much more of this singing than is necessary for 'the

propagation of species'. Of course, for a positivist 'singing' is only 'accidental', only a 'by-product'. But in reality this singing may be *the main function of the given species*, the meaning of its existence, the purpose which nature had in view in creating this species. And this singing is needed not to attract the females, but for some general harmony of nature we only sometimes vaguely feel.

Thus we see that what appears as a collateral function of love, from the point of view of an individual, may serve as a principal function of the species.

To go on: the young birds are not there yet, there is not even a hint of them. Yet 'houses' are already being prepared for them. Love has evoked a thirst for activity. *Instinct* governs this thirst for activity, because it is expedient from the point of view of the species. At the first awakening of love - work starts. And one and the same desire creates both a new generation and the conditions in which this new generation is to live. One and the same desire awakes creative activity in all directions, brings about mating for the birth of the new generation and makes them *build* and *create* for the future generation.

We see the same thing in men. Love is a creative force. And the creative force of love manifests itself not in one but in many varied directions. Perhaps it is precisely by this force of love, Eros, than mankind is incited to fulfil its *main function*, which we do not know and only sometimes dimly feel.

But even without touching upon the purpose of mankind's existence, within the limits of what we can know, we must admit that all the creative activity of mankind is the outcome of love. Our whole world turns around love as its centre.

Love opens up in man sides he was not aware of in himself. There is much in love of the stone age and also of the witches' sabbath. Many men cannot be pushed by anything but love to crime, to treason; only love can bring forth in them deeply hidden feelings which they considered long extinct in themselves. In love there is concealed a tremendous amount of egotism, vanity and self-pride. Love is a great force that tears off all masks. And people who run away from love, run away in order to keep their masks.

If creation, *the birth of ideas*, is the light which comes from love, then this light comes from a *great flame*. In this everlasting flame, in which all mankind and the whole of the world are burning, all the forces of the human spirit and genius are developed and refined; and perhaps it is precisely from this flame, or with the help of it, that a new force will spring into being which will lead those who follow it away from the shackles of matter.

Without using any allegories it can be said that love, as the strongest of all emotions, reveals in the soul of man all its manifest and hidden qualities, and it can disclose those *new* qualities which now are the subject of occultism and mysticism and are so deeply hidden that, in most cases, men even refuse to admit the possibility of their existence.

Voluptuousness - to all hair-shined despisers of the body a thorn and a stake - cursed as 'the world' by all other worldlings: for it mocketh and befooleth all teachers of confusion and error.

Voluptuousness - to the rabble the slow fire whereon it roasteth; to all worm-eaten wood, to all stinking rags, an ever-ready oven of lust and lechery.

Voluptuousness - to free hearts, innocent and free, the garden-joy of the earth, the overflowing gratefulness of the future to the present.

Voluptuousness - sweet poison only to the withered, but a grand cordial to the lion-willed and a reverently stored king of wines.

Voluptuousness - the happy prototype of a higher happiness and of the highest hope. For to *many* an one marriage is promised, and more than marriage -

To many an one that is more strange to himself than are man and woman - and who comprehendedeth wholly *how strange* are man and woman to one another?*

I have dwelt so long on the question of the understanding of love, because it is of the most vital importance; for to the majority of people approaching the threshold of the mystery, it is precisely from this side that much becomes opened or closed and because for many precisely this question constitutes the greatest obstacle.

The most important thing in love is *that which is not*, which is *completely* non-existent from an ordinary everyday materialistic point of view.

In this sensing of that which is not, and in the contact thus reached with the world of the miraculous, i.e. the truly real, lies the principal meaning of love in human life.

It is a well-known psychological fact that at moments of very intense experience, great joy or great suffering, everything happening around seems to a man *unreal*, a dream. This is the beginning of the awakening of the soul. When a man begins to be aware, in a dream, that he is asleep and that what he sees is a dream, he awakes. In the same way a soul, when it begins to realize that all visible life is but a

* F. W. Nietzsche, *Thus Spake Zarathustra*, 'Of The Three Evils', trs. A. Tille, Everyman's Library, J. M. Dent & Sons, London, 1933 and Modern Library, New York, 1966.

dream, approaches awakening. And the stronger, the more vivid the experiences of a man, the quicker may come the moment of consciousness of the unreality of life.

It is very interesting to examine love and men's attitude to love, using the same method and the same analogies as those applied to the comparative study of different dimensions.

We should again imagine a world of plane-beings, examining phenomena which come to their plane from another unknown world (such as the change of the colour of lines on the plane which are actually due to the rotation of a wheel with multi-coloured spokes passing through the plane). The plane-beings suppose that these phenomena originate on their plane from causes also lying on the plane, and that they also end there. And all similar phenomena are for them identical, such as the two circles which actually belong to quite different objects.* On this basis they build their theories and their ethics. And yet, if they were bold enough to abandon their 'two-dimensional' psychology and to understand the true nature of these phenomena, then *with the help* of these very phenomena and by means of them they would be able to tear themselves away from their plane, to rise, to soar above it and to see a vast unknown world.

The question of love occupies exactly the same place in our life.

Only he who is able to see far beyond *the facts* and who can view the facts themselves in the light of what is concealed behind them, only he can see the true depth of the question.

Whoever is capable of seeing beyond 'facts' begins to see many new things *precisely in love and through love*.

I shall quote here a poem in prose by Edward Carpenter (from his book *Towards Democracy*).

The Ocean of Sex To hold in continence the great sea, the great ocean of sex, within
one, With flux and reflux pressing on the bounds of the body, the
beloved genitals, Vibrating, swaying emotional to the star-glint of the eyes of
all
human beings,
Reflecting Heaven and all Creatures, How wonderful!
Scarcely a figure, male or female, approaches, but a tremor travels across it.

* See pp. 53 and 119.

As when on the cliff which bounds the edge of a pond someone
moves, then in the bowels of the water also there is a mirrored
movement

So on the edge of this Ocean The glory of the human form, even faintly
outlined under the trees

or by the shore, convulses it with far reminiscences;
(Yet strong and solid the sea-banks, not lightly to be overpassed;) Till
maybe to the touch, to the approach, to the incantation of the
eyes of one,

It bursts forth, uncontrollable O
wonderful Ocean of Sex,

Ocean of millions and millions of tiny seed-like human forms
contained (if they be truly contained) within each person Mirrors of the
very universe, Sacred temple and innermost shrine of each body, Ocean-
river flowing ever on through the great trunk and branches of Humanity,
From which after all the individual only springs like a leaf-bud' Ocean which
we so wonderfully contain (if indeed we do contain

thee), and yet who containest us! Sometimes when I feel and know thee
within, and identify myself
with thee, Do I understand that I also am of the dateless brood of Heaven
and
Eternity.*

Returning to that from which I started, to the relationship between the two
fundamental laws of our existence, *love* and *death*, the true correlation of
which remains for us mysterious and incomprehensible, I shall only recall the
words by which Schopenhauer ends his *Counsels and Maxims*

I should point out how Beginning and End meet together, and how closely and
intimately Eros is connected with Death, how Orcus, or Amenthus, as the Egyptians
called him, is not only the receiver but the giver of all things Death is the great
reservoir of Life Everything comes from Orcus, - everything that is alive now was
once there Could we but understand the great trick by which that is done, all would be
clear!***

* Edward Carpenter, *Towards Democracy*, London, George Allen & Unwin and
New York, Folcroft, 1931

****Counsels and Maxims*, being the second part of A Schopenhauer's 'Aphonsmen
zur Lebensweisheit, trs T Bailey Saunders, London, Swan Sonnenschein, 1899

CHAPTER 16

The phenomenal and the noumenal side of man 'Man in himself.' How do we know the inner side of man? Can we know of the existence of consciousness in conditions of space not analogous to ours? Brain and consciousness. Unity of the world Logical impossibility of a simultaneous existence of spirit and matter. Either all is spirit or all is matter. Rational and irrational actions in nature and in man's life. Can rational actions exist side by side with irrational? The world as an accidentally produced mechanical toy. The impossibility of consciousness in a mechanical universe. The impossibility of mechanicalness if consciousness exists. The fact of human consciousness interfering with the mechanical system. The consciousness of other cross-sections of the world. How can we know about them? Kant on 'spirits'. Spinoza on the cognition of the invisible world. Necessity for the intellectual definition of what is possible and what is impossible in the noumenal world

We know very imperfectly what man is and our ideas of man are extremely erroneous and easily create new illusions. First of all, we are inclined to regard man as a certain unity, and to consider different details and functions of *man* as interconnected and all of them dependent on one another. Moreover, we see the cause of all man's properties and actions in his physical apparatus, in the visible man. In reality man is something very complex, and complex in many senses. Many sides of man's life are either totally unconnected with each other, or only connected by the fact that they belong to one and the same man; and man's life goes on simultaneously as it were, on different planes. Moreover, the phenomena of one plane touch another plane only partially and rarely, and may not touch it at all. And man's relations to the different sides of himself and of other people are not at all the same.

Man contains in himself all the three kinds of phenomena mentioned earlier, i.e. he represents a combination of physical phenomena, phenomena of life and psychological phenomena. And the interrelation of these three orders of phenomena is infinitely more complex than we are accustomed to think. Psychological phenomena in ourselves we feel, sense and are aware of; phenomena of life and physical phenomena we observe and form conclusions about on the grounds of experience. We do not sense the psychological phenomena of *others*, i.e. the thoughts, feelings and desires of

another man. We deduce that he has got them from his words or by analogy with ourselves. We know that, with us, certain actions are preceded by certain thoughts and feelings. And so, when we observe the same actions in another man, we conclude that he has thought and felt as we do. Analogy with ourselves is our only criterion and method of judging and drawing conclusions about the psychological phenomena of other people, if we cannot communicate with them or refuse to believe what they tell us about themselves.

Supposing I were, to live in the midst of people, without any means of communicating with them or drawing conclusions by analogy; I should then be surrounded by moving and acting automatons, the meaning, significance and causes of whose actions would be totally obscure for me. Perhaps I would explain their actions by 'molecular motion', or by the 'influence of the planets', or by 'spiritualism', i.e. the actions of 'spirits', or by 'accident', an involuntary combination of causes; in any case I would not and could not see the *psychological life* of these people in those actions.

Altogether, I can only judge about the existence of thought and feeling by analogy with myself. I know that certain phenomena in me are connected with my possessing thought and feeling. When I see the same phenomena in another man, I conclude that he also possesses thought and feeling. But I cannot have a *direct* proof of the existence of psychological life in another man. Studying man only from outside, I should be in relation to him in exactly the same position as, according to Kant, we stand in relation to the surrounding world. We only know our means of perceiving it. *The world in itself we do not know.*

Thus I have two means of knowing a *man in himself* (i.e. his inner life) - analogy with myself and communication with him, *exchange of thoughts*. Without this a man for me is nothing but a *phenomenon*, a moving automaton.

The *noumenon* of a man is his psychological life, all that this psychological life contains, and all that it connects man with.

Both worlds are open for us in 'Man', although the noumenal world is open but slightly and imperfectly owing to the fact that it is perceived by us through the phenomenal world.

Noumenal means *perceived by the mind* and the characteristic feature of the *things belonging to the noumenal world* is the fact that *they cannot be perceived by the same method as things of the phenomenal world*. We may speculate about the existence of things of the noumenal world, we may find them by means of mental deductions, we may discover them by analogy, we may feel them, enter into some

sort of communion with them - but we cannot see, hear, touch, weigh or measure them, we cannot photograph them or resolve them into chemical elements or into a number of vibrations.

Thus psychological life with all its functions and all its content - thoughts, feelings, desires, will, does not belong to the world of phenomena. No element of psychological life can be perceived by us *objectively*. It is just as impossible to see *an emotion* as such, as it is impossible to see *the value of a coin*. You can see the inscription on a coin but you can never see its *value*. It is just as impossible to photograph a *thought* as it is to visualize 'Egyptian darkness' in a bottle. To think otherwise, to experiment with photographing thoughts, simply implies inability to think logically. On a gramophone record there are scratches, elevations and depressions, but *there are no sounds*. Whoever will hold the gramophone record to his ear, hoping to hear something, will certainly listen in vain.

Including in himself *two worlds*, i.e. the phenomenal and the noumenal world, 'man' offers us the possibility to understand the mutual relationship of these two worlds in all nature. It should be remembered, however, that in denning the noumenon as psychological life we take only one of the innumerable facets of the noumenon.

Earlier we came to the conclusion that the *noumenon* of a thing consists in *its function* in another sphere, in its meaning which is incomprehensible in the given section of the world.*

Further, we came to the conclusion that the number of meanings of one and the same thing in different sections of the world must be infinitely great and infinitely varied, that each thing must become its own opposite, return again to the beginning (from our point of view) and so on and so on, infinitely expanding, contracting again, etc.

And we must remember that the noumenon and the phenomenon are not *different things*, but merely different aspects of *one and the same thing*. Moreover, every phenomenon is the *finite expression of*

' The expression 'section of the world' is taken as an indicator of the unreality of the forms of each section. The world is infinite and all forms are infinite, but to encompass them with the finite brain-consciousness, i.e. with the consciousness reflected by the brain, we must imagine infinite forms as finite - and these are the sections of the world. The world is one, but the number of possible sections is infinite. Let us imagine an apple: it is one. But it is possible to imagine an infinite number of sections of an apple, taken in all directions; and all these sections will differ from one another. If, instead of an apple, we take a more complex body, for instance, the body of some animal, then sections taken in different directions will be even more unlike one another.

something *infinite* within the sphere of our perception through the organs of sense.

For us a phenomenon is a three-dimensional expression of the infinite.

This three-dimensionality depends on the three-dimensional forms of our perception, i.e. more simply, on our brain, nerves, eyes and fingertips.

In 'man' we have found that one side of his noumenon is his psychological life, that it is precisely in mind that lies the beginning of the solution of the riddle of those functions and inner implications of man which are incomprehensible from outside.

What is man's psychological life if not his function, unknowable in the three-dimensional section of the world? Indeed, if we should study and observe man objectively, from outside, by all the means accessible to us, we shall *never* discover his psychological life or define the function of mind. We must first of all *know about the existence of our own psychological life*, then enter into a conversation with another man (by means of sounds, gestures, words), begin to *exchange thoughts* with him and, on the basis of his answers, draw the conclusion that he possesses what we do; or draw the same conclusion on the basis of external signs (actions identical to ours in identical circumstances). By *direct method* of objective investigation, without the help of *speech*, or without the aid of deduction *by analogy* we shall not discover any psychological life in another man. That which is inaccessible to a direct method of investigation, and yet *exists*, is NOUMENAL. Consequently we shall not be able to determine the function and meaning of man in a section of the world other than the world of Euclidean geometry which is alone accessible to 'direct methods of investigation'. Therefore we have every right to regard 'man's mind' as his function in a section of the world different from the *three-dimensional* section in which 'man's body' functions.

Having established this, we may ask ourselves the question: have we not the right to draw the reverse conclusion and regard the unknown function of the 'world' and of 'things' outside the three-dimensional section as *their own kind of mind*?

Our ordinary positivist view regards *mind as the function of the brain*. Without the brain we cannot imagine any mental life.

Max Nordau, when wishing to imagine the 'world's consciousness' (in *Paradoxes*) had to say that we cannot be certain that somewhere in the infinite space of the universe *is not repeated on a colossal scale the*

same combination of physical and chemical elements as constitutes our brain This is very characteristic and typical of 'positivist science' Wishing to imagine the 'world's consciousness', positivism must first of all imagine a *gigantic brain* Does not this at once savour of the two-dimensional plane-world? In actual fact the idea of a gigantic brain somewhere beyond the stars shows the astonishing poverty and feebleness of positivist thought This thought cannot get out of the customary rut, and it has no wings to fly

Imagine some inquiring inhabitant of seventeenth-century Europe trying to visualize the means of transportation of the twentieth century and picturing to himself an enormous stage-coach, the size of a large inn, drawn by a thousand horses He would be very near the truth . . . and at the same time infinitely far from it And yet even in his time there were some minds which worked in the right direction; the idea of a steam engine was already shaping itself, models were already appearing

The thought expressed by Nordau is reminiscent of the favourite theories of popular philosophy relating to an idea casually picked up, that the planets and stars of the visible world are merely the molecules of some great body, of which our universe is but an insignificant part. . . .

'Perhaps the whole universe is contained in the little finger of some great being,' says a philosophizing man-in-the-street. 'And perhaps our molecules are also worlds. Maybe my little finger also holds several universes!' And the man-in-the-street becomes frightened. But all such reasonings are nothing but a gigantic *stage-coach*. * Such reasoning is similar to the reflections of a little girl about whom I once read, I think, in the *Theosophical Review*. The girl sat by the fire; beside her slept a cat. 'Here is the cat, asleep,' thought the little girl, 'Perhaps it is dreaming that it is not a cat but a little girl. And maybe I am *not really a little girl at all, but a cat, and I am only dreaming that I am a little girl.* . . .' The next moment a piercing shriek shakes the house and the little girl's parents have a hard time to persuade her that she is not a cat but truly a little girl.

All this shows that philosophizing needs a certain skill. Our thought is surrounded by a great many blind alleys And positivism,

* The error lies here not in the idea itself but in the literal analogy In itself the idea that molecules are worlds and worlds are molecules is absolutely correct and is worthy of attention and study, it may serve as a means for a right understanding of the world My readers will have to meet with this idea later and then they will see how much is contained in this idea and how much is explained by taking this idea as one's starting point But the same thought, enclosed in a literal analogy without the idea of the Unknown and the Unknowable, is destroyed and becomes a caricature

always and everywhere trying to apply the rule of three, is a blind alley in itself.

Our analysis of phenomena and the relation we have established between physical phenomena, phenomena of life and psychological phenomena permits us to affirm *quite definitely* that psychological phenomena cannot be a function of physical phenomena - or phenomena of a lower order. We have established that the higher cannot be a function of the lower. And the division of the higher and the lower is also based on the perfectly real fact of the different potentialities of different orders of phenomena - of the different amount of *latent force* contained in them (or liberated by them). And, quite naturally, we have the right to label as *higher* those phenomena which possess a greater potentiality, a greater latent force, and as *lower* phenomena possessing a lesser potentiality, a lesser latent force.

Phenomena of life are *higher* as compared with physical phenomena.

Psychological phenomena are *higher* as compared with phenomena of life and physical phenomena.

It is clear *which* must be the function of *which*.

We cannot say without making the crudest logical mistake that life and mind are functionally dependent on physical phenomena, i.e. we cannot call them the *result of* physical phenomena. On the contrary, everything forces us to recognize physical phenomena as the result of life, and physiological life as the result of psychological life.

But of *what* life and *what* mind? This is the question. Naturally it would be absurd to regard the earthly globe as a function of the vegetable and animal life *proceeding on the earth*, and the visible starry world as a function of the *human* mind. But nobody disputes this. The occult understanding speaks of *another* life and *another* mind, partial manifestations of which are our life and our mind. It is important to establish the *general principle* that physical phenomena, as *the lower*, depend on phenomena of life and mind, as *the higher*.

If we accept this principle as established, we shall be able to proceed further.

The first question which arises is: in what relation does the psychological life of man stand to his body and his brain?

This question has been answered differently at different times. Psychological life was regarded as a direct function of the brain (Thought is a motion of matter'), thus, naturally, denying any possibility of thought or feeling without a brain. Then there were

attempts at establishing the *parallelism of mental activity and the activity of the brain*. But the character of this parallelism has always remained very obscure. Yes, evidently the brain works parallel with thinking and feeling, a break-down or a disorder in the activity of the brain brings about an apparent break-down or a disorder in mental functions. Still, the activity of the brain is *nothing but motion*, i.e. an object phenomenon, whereas mental activity is a phenomenon objectively undefinable, *subjective*, and at the same time *more powerful* than anything objective. How to link it all together?

Let us try to look at the activity of the brain and of the mind from the point of view of the existence of two data 'the world' and 'inner life', accepted by us in the very beginning.

If we look at the brain from the standpoint of inner life, the brain will be a part of the 'world', i.e. a part of the outer world lying outside mental life. Thus mind and the brain are different things. But our observation and experience tell us that the mind can operate only through the brain. The brain is that necessary prism passing through which a part of the mind manifests itself to us as *intellect*. Or putting it in a slightly different way, *the brain is a mirror, reflecting the mind in our three-dimensional section of the world*. This means that in our three-dimensional section of the world *not the whole of mind is seen* (we do not know its real dimensions) but only as much of it as is reflected in the brain. It is clear that if the mirror is broken, the reflection must also be shattered, or, if the mirror is damaged it will give a distorted reflection. But there are no grounds for supposing that when the mirror breaks the object it reflects also becomes broken, i.e. in this case, mind.

The mind cannot suffer from disorders of the brain, but its *manifestations* can suffer greatly and can even disappear altogether from the field of our observation. It is clear, therefore, that disorders in the activity of the brain lead to a weakening or a distortion, or even a complete disappearance of mental faculties, manifesting in our sphere.

The idea of comparing three-dimensional and four-dimensional bodies enables us to assert that not all activity of the mind passes through the brain, but only a part of it.*

* In all that has been said above it would be more correct to substitute for the word *brain* the word *body*, organism. New trends of scientific psychology bring us precisely to the understanding of the psychological value of different functions which have been unknown till recent times and are even now but little investigated. The mind is connected not only with the brain but with the whole body, with all the organs, with all the tissues. The theory of hormones, the study of the activity of the glands and many other things round which science is now revolving, already show that the brain is by no means the sole conductor of the mental activity of man.

Each of us is in reality an abiding psychological entity far more extensive than he knows - an individuality which can never express itself completely through any corporeal manifestation. The Self manifests through the organism; but there is always some part of the Self unmanifested.*

The 'positivist' remains dissatisfied. He will say: prove to me that thought can take place without the brain, then I will believe.

I shall answer him by the question: *What* in this case will constitute proof?

There are no proofs and there cannot be any. The existence of mind *without the brain* (without the body), if it is possible, is for us a fact which cannot be *proved* like a physical fact.

And if my opponent is sincere in his reasoning, he will become convinced that there cannot be no proofs - *because he himself has no means of ascertaining the existence of mind acting independently of the brain*. Indeed, let us suppose that the thought of a *dead man* (i.e. of a man whose brain has ceased to work) continues to function. How can we ascertain this? *We cannot*. We have means of communication (speech, writing) with beings who are in the same conditions as ourselves, i.e. whose mind acts through the brain; the existence of mind in such beings we can deduce by analogy with ourselves. But the existence of mind in other beings, *irrespective of whether there are such beings or not, we cannot ascertain* by our ordinary means.

This last fact gives a key to the understanding of the true relation between the mind and the brain. Our mind, being merely a reflection thrown back by the brain, can only notice other reflections similar to itself. We have established earlier that we can make conclusions about the mind of other beings by means of *exchanging thoughts with them* and by analogy with ourselves. Now we can add that, *because of this* we can only know about the existence of minds *similar to ours* and can know no others, whether they exist or not, *until we find ourselves on their plane*.

If we should one day feel our mind not only as it is reflected by the brain but in a wider sense, we would simultaneously have the possibility of discovering beings, analogous to ourselves, whose mind is independent of the brain, if such beings exist in nature.

But do such beings exist or not? What can our thought, *such as it is now*, tell us concerning this?

Observing the world from outside, we see in it actions proceeding

* From Frederick Myers's essay on the 'Subliminal Consciousness', as quoted in W. James's book *The Varieties of Religious Experience*, New York, Longmans Green, 1917.

from rational, conscious causes, such as the work of human beings appears to us; and we see actions proceeding from unconscious blind forces of nature, such as the movement of waves, ebbing and flowing tides, the flow of rivers, etc., etc.

Such a division of observed actions into rational and mechanical seems naive even from the positivist point of view. If we have learned something by the study of nature, if the positivist method has given us anything at all, it is the conviction of the essential *unity* of phenomena. We know, and we know this for certain, that things basically similar cannot result from dissimilar causes. And scientific philosophy knows it too. Therefore it also regards the above-mentioned division as naive and, aware of the impossibility of such a dualism - that one part of observed phenomena proceeds from rational and conscious causes and another part from irrational and unconscious - it finds it possible to explain *everything* as proceeding from irrational and unconscious causes.

Scientific observation tells us that the apparent rationality of human actions is nothing but illusion and self-deception. Man is a plaything in the hands of elemental forces. He is only a transmitting station of forces. Everything that he thinks he *does* is in reality done for him by external forces which enter into him with air, with food, with sunlight. Man does not perform a single action by himself. He is only a prism through which a line of action is reflected in a certain way. But as a ray of light does not originate from the prism, so the action does not originate from man's intellect.

In confirmation of this there is advanced, among other things, the 'theoretical experiment' of German psycho-physiologists. They assert that, if it were possible from the moment of birth to deprive a man of ALL EXTERNAL IMPRESSIONS: of light, sound, touch, heat, cold and so on, and at the same time keep him alive, such a man would not be capable of ANY, EVEN THE MOST SIGNIFICANT ACTION.

It follows from this that man is an automaton, similar to the *automaton* on which the American physicist Tesla worked and which, obeying electric currents and long-distance wireless waves, was supposed to perform a whole series of complex movements.

It follows that all *man's actions* depend on external stimuli. The smallest reflex requires an external irritation. A more complex action needs a whole series of preceding complex irritations. Sometimes there is a great lapse of time between the irritation and the action, and a man does not feel any connection between them. Consequently he regards his actions as volitional, whereas, in actual fact, volitional actions do not exist. A man cannot do anything *by himself*, just as a

stone cannot jump into the air at will: it is necessary for something to throw it up. In the same way a man needs something to give him a shock, and then he will develop exactly as much energy as the shock (or preceding shocks) have imparted to him - and not a whit more. This is what positivism teaches.

From a LOGICAL STANDPOINT this theory is more correct than the theory of two kinds of actions: RATIONAL and IRRATIONAL. At least it establishes the principle of the essential UNIFORMITY. Indeed, how is it possible to suppose that in a large machine *some parts* move according to their own wish and judgment? It should be either one or the other. Either all parts of the machine possess a realization of their function and act according to this realization, or all of them are worked by the same motor and are brought into motion by the same driving belt. The enormous service rendered by positivism is that it has established this principle of uniformity. It remains for us to determine in what this uniformity consists.

The positivist view of the world asserts that the *beginning of everything* is unconscious *energy*, produced by unknown causes at some unknown time. Having passed through a long series of imperceptible electro-magnetic and physico-chemical processes, this energy manifests itself for us in visible and tangible motion, then in growth, i.e. in phenomena of life and finally in psychological phenomena.

This view has been examined already and the conclusion drawn that it is quite impossible to regard physical phenomena as the cause of *psychological phenomena*, whereas psychological phenomena, on the contrary, often serve as an indisputable cause of physical phenomena observed by us. The observed process of psychological phenomena arising under the influence of external mechanical shocks does not in the least mean that physical phenomena originate the psychological ones. They are not the cause but merely the shock upsetting the balance. In order that external shocks should provoke psychological phenomena an organism is needed, i.e. a complex and animated life. The cause of psychological life lies in the organism, in its animation which may be defined as the potential of psychological life.

Moreover, from the very essence of the concept *motion*, i.e. the basis of the physico-mechanical world, we have drawn the conclusion that motion is not at all a self-evident truth, that the idea of motion arose in us from the limitation and incompleteness of our sense of space (the slit through which we observe the world). And we have established that the idea of time is not deduced from observation of motion, as is usually supposed, but the idea of motion results from our sense of time - and that the idea of motion is quite definitely a

function of the time-sense which, in itself, is the limit or the boundary of the space-sense of a being of a given psychological make-up. It has also been made clear that the idea of motion could have arisen from the comparison of two fields of vision. And generally the whole analysis of the fundamental categories of our perception of the world - of space and time - has shown that we have no grounds whatever for regarding motion as a basic principle of the world.

And if this is so, if it is impossible to assume the existence of an unconscious mechanical motor behind the scenes of the world's structure, one is forced to suppose that the world is alive and intelligent. Because either one or another thing is true: either the world is mechanical and dead, 'accidental', or it is alive and animated. There can be nothing dead in living nature, just as there can be nothing alive in dead nature.

After going through a long period of unconscious and semi-conscious existence in the mineral, vegetable and animal kingdoms, nature attains its last great development in man, and asks itself: *What am I?* Man is the organ of the self-consciousness of nature.

So wrote Schopenhauer in his *Aphorisms* and, of course, it is a very beautiful picture. But we have no grounds whatever for considering man as the *crown* of all nature's creation. He is only the HIGHEST WE KNOW.

Positivism would be quite right and its picture of the world would not have a single defect *if there were no reason in the world anywhere or at any time*. Then, willy-nilly, it would be necessary to admit that the universe is a *mechanical toy, accidentally formed in space*. But the fact of the existence of mind 'spoils all the statistics'. It cannot possibly be left out.

We have either to admit the existence of two principles - 'spirit' and 'matter' - or to choose one of them.

In this, dualism is destroyed because, if we admit the separate existence of spirit and matter and carry our reasoning further, we are bound to come to the conclusion either that spirit is unreal while matter is real, or that matter is unreal and spirit is real; in other words that either spirit is material or matter is spiritual. Consequently one has to choose one or the other - either spirit or matter.

But to think really MONISTICALLY is more difficult than it seems, I have met many people who called themselves and sincerely regarded themselves as 'monists'. But in actual fact they never departed from the most naive dualism and never experienced even a spark of understanding of the world's unity.

Positivism, regarding 'motion' or 'energy' as the basis of everything, can never be 'monistic'. It cannot deny the fact of mind. If it were able to disregard this fact completely, all would be well and the universe could pass for an accidentally formed mechanical toy. Unfortunately, however, even positivism cannot deny the existence of mind, nor can it destroy it. It can only bring it down as low as possible, calling it a *reflection* of reality, the essence of which lies in motion.

But in that case how to deal with the fact that the 'reflection' possesses an infinitely greater potentiality than the reality?

How can this be? From what is this reality reflected or through what is it refracted in such a way that, in its reflected form, it has an infinitely greater potentiality than in the original form?

A consistent 'materialist-monist' would be able to say only that 'reality' is reflected from itself, i.e. that 'one motion' reflects from another motion. But this is nothing but dialectics and it does not explain what mind is, because it is *something different* from motion.

However much we may persist in calling thought motion, we know that they are two different things: different as regards our perception of them, things belonging to different worlds, incommensurable and capable of existing simultaneously. Moreover, *thought* can exist without *motion*, whereas motion cannot exist without *thought*, because the necessary condition of motion - *time* - comes from the mind. If there is no mind, there is no time, as it exists for us. If there is no time, there is no motion.

We cannot escape this fact and, *thinking logically*, are forced to admit *two principles*. But, if we consider the very admission of two principles *illogical*, we are bound to accept THOUGHT *as a single principle*, and regard *motion* as an ILLUSION OF THOUGHT.

What does it mean? It means that there can be no 'monistic materialism'. Materialism can *only* be dualistic, i.e. it has to recognize *two principles*, motion and thought. Our concepts are connected with language. Our language is *profoundly dualistic*. It is a terrible drag. I have already said once before, what a drag language is on our thought, making it impossible to express the relationships of the *existing* universe. In our language there is only one *eternally becoming* universe. The 'Eternal Now' cannot be expressed in our language.

Thus our language depicts to us an admittedly false universe: *dual*, when in reality it is *one*, and *eternally becoming*, when in reality it is *eternally existing*.

If we realize how much this fact changes everything, if we understand to what extent our language hides from us the true picture of

the world, we shall see that it is not only difficult but *absolutely impossible* to express in our language the true relationships of things of the *real* world.

This difficulty can be overcome only by the formation of new concepts and expanded analogies.

Later I shall make clear the principles and methods of this expansion, methods and principles which we already possess and which can be extracted from the store of our knowledge. For the moment it is important to establish one thing - THE NEED OF UNIFORMITY - the monistic character of the universe. .

As a matter of principle, it is immaterial what to regard as *the beginning*: spirit or matter. What is important is to admit their *oneness*.

But what then is matter?

On the one side it is a *logical concept*, i.e. a *form of thinking*. No one has ever seen *matter*, nor will he ever see it: matter can only be *thought*. On the other hand it is - *illusion* taken for reality. Matter is a section of *something*, a non-existent, imaginary section. But that of which matter is a section does exist. It is the real, *four-dimensional world*, perhaps a many-dimensional world.

Wood, the substance from which a table is made, exists but we do not know the true nature of its existence. All we know about it is the form of our perception of it.

And, if we are no longer there, it will continue to exist, but only for a perception working in the same way as ours.

But *in itself this* substance exists in some entirely different manner, *HOW*, we do not know. One thing is certain; it does not exist in space and time - these forms we impose on it. Probably all *similar wood* of different centuries and different parts of the world forms one mass -one body, perhaps *one being*. It is certain that the particular substance (or part of substance) from which this table is made, has *no separate existence other than in our perception*. We do not understand that a *thing* is only an artificial *definition* by our senses of some undefinable cause which infinitely transcends the *thing*.

But a *thing* may acquire an individual and separate soul of its own. And in that case a thing exists independently of our perception. Many things possess such souls, especially *old things*, old houses, old books, works of art, etc.

But what grounds have we for thinking that there exists in the world a mind other than our human one and that of animals and plants?

First of all, of course, the thought that everything in the world is alive and animated and that manifestations of life and animation must exist on all planes and in all forms. But we can see mind only in forms analogous to ours. The most important thing is that we have no reason to consider our mind as the only and highest form existing in the universe.

The question stands thus How could we learn about the existence of the mind of other sections of the world, if they exist?

By two methods, through COMMUNICATION, EXCHANGE OF THOUGHTS and by means of CONCLUSIONS BY ANALOGY.

For the first it is necessary that our mental life should itself become similar to theirs, should transcend the limits of the three-dimensional world, i.e. a change of our form of perception and representation is required.

The second may result from a gradual expansion of the faculty of drawing analogies. In trying to think outside the usual categories, in trying to look at things and ourselves from a new angle, and simultaneously from many angles, in trying to liberate our thinking from the customary partitions of time and space, we gradually begin to notice analogies between things, where previously we had seen nothing at all. Our mind grows, and with it grows the capacity of drawing analogies. With every new degree reached, this capacity broadens and enriches our mind. Each moment we advance more rapidly, each new step becomes easier. Our mental life becomes *different*. And then, applying oneself one's expanded capacity of drawing analogies and looking about, we suddenly notice around us a mental life the existence of which we never suspected *before*. And we understand why we could not see it before. It lies on another plane, not on the plane on which our mental life had previously existed In this way precisely this *capacity of drawing new analogies* is the beginning of changes which lead us to another plane of being

The mind of man begins to penetrate into the *world of noumena* which is akin to it. Together with this, man's view of the *phenomenal world* undergoes a change. Phenomena may suddenly acquire in his eyes an entirely new grouping As already said, *similar* things may prove *different*, different things similar, totally separate, unconnected things may prove to be parts of one large whole of *some quite new category*, whereas things which appear indissolubly connected and forming one whole may in reality prove to be manifestations of different minds, having nothing in common and even being ignorant of one another's existence. *Such* in fact may prove to be any *whole* of our world, a man, an animal, a planet, i.e. consisting of different minds,

representing, as it were, a battlefield of different beings.

In every *whole* of our world we see a great many *opposite* tendencies, inclinations, strivings, efforts. Each whole is as it were a battleground of a great number of *opposite forces*, each of which acts *by itself*, strives to attain *its own ends*, usually to the destruction of *the whole*. But the *interaction* of these forces constitutes *the life of the whole*. And in everything there is always *something* acting which limits the activity of separate tendencies. This *something* is the mental life of the whole. To establish the existence of this life by means of analogy with oneself or by way of communication with it and an exchange of thoughts is impossible for us. But a *new way* opens up before us. We see a separate and entirely new function (the preservation of *the whole*) Behind this function we presuppose the existence of a separate *something*. This separate *something*, possessing a definite function, is impossible without a separate mental life. If *the whole* possesses mental life, then separate tendencies of forces must also possess a life of their own. A body or an organism is the point of intersection of the lines of these lives, a meeting-place, perhaps a *battlefield*. Our 'I' - this is the *battlefield* in which, each moment, one or another emotion, one or another habit or tendency takes the upper hand, subjugating the others for that moment and identifying itself with the 'I'. But the 'I' is also a *being*, possessing *its own* life; only it is very little aware of what it consists of and is constantly becoming connected now with *one part* of itself, now with another. Have we any right to presume the existence of BEINGS in the organs and parts of the body, in *thoughts* and *emotions* of man? We have, because we know that there is nothing *purely mechanical*, and that every something possessing a *separate function* MUST be animated and can be called a *being*.

All the beings, the existence of which we may presuppose in the *world of many dimensions*, may not know one another, i.e. they may not know that we are connecting them together into various wholes in our phenomenal world, just as in general they may have no knowledge of our phenomenal world and its relationships. But *themselves* they must know, although we cannot determine the degree of clarity of their consciousness. It may be clearer than ours, or it may be more nebulous, dreamlike. Between these beings there may go on a continuous, though imperfectly realized, *exchange of thoughts*, similar to the metabolism of a living body. They may experience certain feelings in common, certain thoughts may arise in them all, simultaneously as it were, under the stimulus of common causes. According to the lines of this inner communion they must divide themselves into different

wholes of some categories either entirely incomprehensible to us or only partially suspected. The essence of each of such separate beings must consist in *knowing itself* and its most intimate functions and relations; it must feel the things which are analogous to itself and must be able to tell about itself and them. In other words, this *consciousness* must consist in always having before it *a picture of itself* and its most intimate relations. It is eternally reviewing this picture, as it were, and immediately transmits it to another being upon entering into communication with it.

Whether these beings belonging to sections of the world other than ours exist or not we cannot tell in the *existing conditions of our perception*. Only a transformed mind can sense them. Our ordinary perception and thinking is too absorbed in the sensations of the phenomenal world and *in itself* and therefore does not reflect impressions coming from other beings, or reflects them so feebly that they do not become fixed in it in any perceptible form. And we do not realize that we are in constant communication with the *noumenon* of everything surrounding us, both far and near, with beings both similar to us and totally different from us, with the lives of everything in the world and with the life of the whole world. If, however, the impressions coming from other beings are so strong that our mind senses them, it immediately projects them into the external phenomenal world and seeks a cause for them in the phenomenal world, exactly like a two-dimensional being living on a plane *seeks on its own plane* the causes of impressions which come from the higher world.

Our mind is limited by its phenomenal perception, i.e. is encompassed in itself. The world of phenomena, i.e. the form of its own perception, encloses it like a ring, like a wall, and it does not see anything apart from this wall.

But if it manages to escape beyond this surrounding wall, it inevitably sees a great many new things in the world.

If we get rid of self-elements in our perception, writes Hinton (*A New Era of Thought*), then —

it will be found that the deadness which we ascribe to the external world is not really there, but is put in by us because of our own limitations. It is really the self-elements in our knowledge which make us talk of mechanical necessity, dead matter. When our limitations fall, we behold the spirit of the world as we behold the spirit of a friend — something which is discerned in and through the material presentation of a body to us.

Our thought means are sufficient at present to show us human souls, but

all except human beings is, as far as science is concerned, inanimate Our self-element must be got rid of from our perception, and this will be changed*

And is the unknowableness of the noumenal world indeed as absolute for us as it sometimes appears?

In the *Critique of Pure Reason* and other writings, Kant denied the possibility of 'spiritual vision' But in *Dreams of a Spirit-seer* he not only admits this possibility but also gives it one of the best definitions we have ever had up to now He asserts unequivocally

I confess that I am very much inclined to assert the existence of immaterial natures in the world, and to put my soul itself into that class of beings

These immaterial beings immediately united with each other might form, perhaps, a great whole which might be called the immaterial world [Every man is a being of two worlds of the immaterial world and the material world, and] it will be proved, I do not know where or when, that the human soul also in this life forms an indissoluble communion with all immaterial natures of the spirit-world, that, alternatively, it acts upon and receives impressions from that world of which nevertheless it is not conscious while it is still man

We should regard the human soul as being conjoined in its present life with two worlds at the same time, of which it clearly perceives only the material world, in so far as it is confined with a body, and thus forms a personal unit

It is, therefore, indeed one subject, which is thus at the same time a member of the visible and of the invisible world, but not one and the same person, for, on account of their different quality, the conceptions of the one world are not ideas associated with those of the other world, thus, what I think of as spirit, is not remembered by me as man, and, conversely, my state as man does not at all enter into the conception of myself as a spirit

[Birth, life, death are only states of the soul Consequently, our body alone is perishable our essence is not perishable and must have existed even at the time when our body had no existence The life of man is dual It is composed of two lives the animal and the spiritual The first life is the life of man and, in order to live this life, man needs a body The second life is the *life of the spirit*, man's soul lives that life separately from the body and must live in it after its segregation from the body]**

In an article on Kant in the *Northern Messenger* (1888) A L Vohnsky says that both in *Vorlesungen* and in the *Dreams of the Spirit-seer* Kant refuses to admit the possibility of only one thing the possibility of a physical perception of spiritual phenomena

* C H Hinton, *A. New Era of Thought*, London, George Allen & Unwin, 1910, PP 36, 37

** Immanuel Kant, *Dreams of a Spirit seer*, London, 1915, P 52

Thus Kant recognizes not only the possibility of the existence of a spiritual *conscious* world, but also the possibility of communion with it.

Hegel built all his philosophy on the possibility of a direct perception of truth, on spiritual vision.

Now, approaching the question of the two worlds from the psychological side, from the side of the theory of cognition, we must firmly establish the fact that before we can hope to learn anything of the noumenal sphere, we must define *all we can define* of the properties of the many-dimensional world, using for this the purely intellectual method of reasoning. Very likely we shall not be able to define very much by this method. Perhaps our definitions will be crude, will not quite correspond to the subtle differentiation of relations in the noumenal world. All this is very probable and should be taken into account. And yet we must define what we can and find out, first of all, with all possible exactitude, *what the noumenal world cannot be*, and then, *what it can be*, i.e. which relations are *impossible* and which are *possible* in it.

This is necessary in order that we could, on coming into contact with the real world, distinguish it from the phenomenal world and, above all, that we may not take for the noumenal world a simple reflection of the phenomenal world. The reason why we are ignorant of the world of causes, the reason why we are imprisoned in the phenomenal world, is precisely that we do not know how to see where the one ends and the other begins.

We are in constant contact with the world of causes, we live in it, because our mind and our function in the world, incomprehensible to us, is a part of it or a reflection of it. But we neither see nor know it, because we either deny its existence, consider that *everything existing* is phenomenal and that nothing that is not phenomenal exists; or we accept it but strive to know it in the forms of the three-dimensional phenomenal world; or else we seek and cannot find it, because we lose our way in the midst of the deceptions and illusions of the *reflected* phenomenal world which we mistake for the noumenal world.

It is in this that the tragedy of our spiritual searchings lies. *We do not know what it is we search for*. And the only means of freeing ourselves from this tragedy is a preliminary *intellectual* definition of the properties of *what we search for*. We must not approach the world of causes without these definitions, with nothing but indefinite sensations, for in that case we shall *get lost in its borderland*.

This was understood by Spinoza who wrote that he could not speak of God, *not knowing his attributes*.

When I learnt Euclid's elements [he wrote] I first understood that the three angles of a triangle are equal to two right angles, and I clearly perceived this property of a triangle although I was ignorant of many others. As regards spectres, or ghosts, I have never yet heard of an intelligible property of theirs, but only of phantasies which no one can grasp.*

We have established certain criteria which permit us to appraise the world of noumena or the 'world of spirits'; and we must make use of them.

First of all we can say that the *world of noumena*, i.e. the real world cannot be three-dimensional and cannot contain anything three-dimensional, i.e. *commensurable* with physical objects, similar to them in outside appearance, *possessing form*. In other words, the noumenal world cannot contain anything having extension in space and changing in time. And, above all, it cannot contain anything dead, inanimate, *unconscious*, although the level of consciousness may be different. In the world of causes everything must be conscious, because it is in itself - *consciousness*, the soul of the world.

Moreover, we must bear in mind that the world of causes is the *world of the miraculous*. That which appears ordinary to us can never be real. *The real* appears miraculous to us; we do not believe in it, do not recognize it. Consequently we do not feel the *mysteries* of which life is full.

Only the unreal is *ordinary*. The real must appear miraculous.

The mystery of time permeates everything. It is felt in every stone which may have witnessed the glacial periods, and the ichthyosaurus and the mammoth. It is felt in the tomorrow which we do not see but which perhaps sees us and which may prove to be our last day or, on the contrary, a day of some achievements of which we know nothing today.

The mystery of thought creates everything. As soon as we understand that thought is not a 'function of motion' and that motion itself is only a *function of thought*; as soon as we begin to feel the depth of THIS MYSTERY, we shall see that the whole world is a kind of vast hallucination which does not frighten us and does not make us think that we are mad, only because we are accustomed to it.

The mystery of infinity is the greatest of all mysteries. It tells us that all the galaxies - the whole visible universe - *have no dimensions* as compared with infinity; that they are *equal to a point*, a mathematical point which has no extension whatever, and that, at the same time, points which are not measurable for us may have a different extension and different dimensions.

* *The Correspondence of Spinoza*, trs. A. Wolf, London, George Allen & Unwin, 1928, Letter LVI - to Boxel, 1674.

In 'positivist' thinking we make efforts to FORGET ABOUT THIS, NOT TO THINK ABOUT IT.

At some future time positivism will be denned as a system which enables one not to think about real things and to limit oneself strictly to the domain of the unreal and the illusory.

CHAPTER 17

A living and intelligent universe Different forms and lines of intelligence Animated nature Souls of stones and souls of trees The soul of a forest The human 'I' as a collective intelligence Man as a complex being 'Mankind' as a being The soul of the world *The face of Mahadeva* Professor James on the animated world Fechner's ideas *Zendavesta* The living Earth

If intelligence exists in the world, then intelligence must exist in everything, although it may be different in its manifestation

We are accustomed to regard as animate and intelligent, in one or another way, only those objects which we call 'beings', i.e. those whom we find analogous to ourselves in the functions which, in our eyes, define an *animate being*.

Inanimate objects and mechanical phenomena are to us lifeless and devoid of intelligence.

But this cannot be so.

Only for our limited mind, for our limited power of communion with other minds, for our limited capacity of analogy does intelligence and, generally speaking, all mental life manifest itself in certain *definite classes* of living beings, side by side with which there exist long series of dead things and mechanical phenomena.

But if we could not talk with each other, if no one of us could infer the existence of intelligence and mental life in another man by analogy with himself, each one would regard as a living being only himself and would relegate all other people to mechanical 'dead' nature

In other words, we recognize as animate beings only those possessing a mind accessible to our observation in the three-dimensional section of the world, i.e. beings whose mind is analogous to ours. About others we do not know and cannot know. All beings whose minds manifest themselves otherwise than in the three-dimensional section of the world are incomprehensible and inaccessible to us. If they come into contact with our life at all, we are *obliged to regard* their manifestations as actions of a dead and unconscious nature. Our capacity for analogy is limited to *this section*. We cannot think logically beyond the conditions of a three-dimensional section. Consequently everything that lives, thinks and feels in a manner not completely analogous to ours is bound to appear to us *dead and mechanical*.

But sometimes we dimly feel the intense *life* which goes on in the

phenomena of nature, and sense a vivid emotionality manifesting itself in the phenomena of nature which, to us, is dead. I mean that behind the *phenomena* of visible manifestations there is felt the *noumenon* of emotions.

In *electrical discharges*, in lightning, in thunder, in the gusts and howling of the wind are felt flashes of sensory-nervous tremors of some gigantic organism.

A peculiar mood for their own is felt in certain *days*. There are days full of strange mysticism, days which have their own individual and unique consciousness, their own emotions, their own thoughts. One may almost talk with such days. And they tell you that they have lived a long long time, maybe for an eternity, and have known and seen many things.

In the changing of season; in the yellow leaves of the autumn with their smell and the memories they bring; in the first snow dusting the fields and adding a peculiar freshness and sharpness to the air; in the waters of spring, in the warming sun and the awakening but still bare branches through which gleams the deep blue sky; in the white nights of the north and in the dark, humid and warm tropical nights spangled with stars - in all these are the thoughts, the feelings, the moods, or more correctly, the *expression* of feelings, thoughts and moods of that mysterious being. Nature.

There can be nothing dead or mechanical in Nature. If life and feeling exist at all, they must exist in everything. Life and intelligence constitute the world.

On the contrary, if we look/row *our side*, from the side of phenomena, we must admit that every phenomenon, every object has a mind.

A mountain, a tree, a river, the fish in the river, drops of water, rain, a plant, fire - each separately must possess a mind of its own.

Looking/row *the other side* - the side of noumena - one is forced to say that everything and every phenomenon of our world is a manifestation in our section of some incomprehensible thinking and feeling belonging to another section and possessing *there* functions which are incomprehensible for us. One intelligence *there* is such and its function is such that it manifests itself *here* in the form of a *mountain*, another in the form of a *tree*, a third in the form of a *fish*, and so on.

Phenomena of our world are very different. If they are nothing but manifestations on our world of different intelligent beings, then these beings must also be *very different*.

Between the mind of a *mountain* and that of a man there must be *the same difference* as between a mountain and man.

Earlier we have admitted the possibility of different existences. We said that a house exists, and a man exists, and an idea exists - but they all exist differently. If we develop this thought further, we shall find a great many kinds of *different existences*.

The fantasy of fairy tales, animating the whole world, endows mountains, rivers and forests with minds similar to the human. But this is just as untrue as a total denial of mind in a dead nature. Noumena are as different and as varied as phenomena which are their manifestations in our sphere.

Every stone, every grain of sand, every planet has a *noumenon*, consisting of life and of mind and connecting them with certain *wholes* larger cosmoses incomprehensible to us.

The *activity of life* of separate units may be very different. The degree of activity of life may be judged from the point of view of reproductivity. In the inorganic, mineral nature, this activity is so small that units of that nature *accessible to our observation* do not reproduce themselves, although it may only seem so to us owing to the insufficient breadth of our view in time and space. Perhaps if our view embraced hundreds of thousands of years and our entire planet at once, we should be able to see the *growth* of minerals and metals.

If we were to observe *from the inside* one cubic centimetre of the human body, not aware of the existence of the whole body and of man, phenomena going on in this tiny cube of flesh would appear to be elemental phenomena of dead nature.

But in any case, *for us*, phenomena are divided into living and mechanical, and invisible objects are divided into organic and inorganic. The latter are broken up without resistance, remaining the same. A stone can be split in two - the result will be two stones. But if a snail is cut in two, the result will not be two snails. This means that the mind of a stone is very simple, primitive - so simple that it can be broken up without undergoing a change. But a snail consists of living cells. Each living cell is a complex being, much more complex than a stone. The body of a snail has the capacity to move, to feed, to experience pleasure or pain, to seek the former and avoid the latter, and above all it possesses the capacity to *multiply*, to create new forms similar to itself, to combine inorganic matter into these forms, and to make physical laws serve itself. A snail is a *complex centre* of transformation of one kind of physical energy into others. This centre possesses its own mind; this is the reason why it is indivisible. And the mind of a snail is infinitely higher than that of a stone. A snail has a *consciousness of form*, i.e. the form of a snail is, in a sense, conscious of itself. The form of a stone is not conscious of itself.

In organic nature where we see life it is easier to presume the existence of a mind. In a snail, a living being, we already have no difficulty in admitting a certain kind of mind. But life belongs not only to separate indivisible organisms - *anything indivisible is a living being*. Each cell in an organism is a living being and must possess a certain kind of mind.

Each combination of cells possessing a definite function also is a living being. Another, a higher combination - an organ - is again a living being and has its own mind.

Indivisibility in our sphere is a sign of a definite function. If every phenomenon on our plane is a *manifestation* of something existing on another plane, then indivisibility on our side evidently corresponds to indivisibility, i.e. *individuality* on that other side. Divisibility on our side denotes divisibility on the other side. The intelligence of the divisible can manifest itself only in a collective non-individual intelligence. We admit consciousness only in a *whole* organism.

But even a whole organism is *merely a section* of a certain magnitude which we may call the life of this organism from birth to death. This *life* may be represented as a four-dimensional body stretched out in time. The physical three-dimensional body is only a section of the four-dimensional body. Linga Sharira. The image of a man which we represent to ourselves, his 'personality' is again only a section of the true personality which undoubtedly has its own separate mind. Thus we may presume in man *three* minds — the first, *the mind of the body*, which manifests itself in instincts and in the constant work of the body, the second, his *personality*, a complex and constantly changing 'I' which we know and in which we are conscious of ourselves; the third, the mind *of his whole life* - a greater and higher 'I'. On our level of development these *three* minds know very little about one another and communicate with one another only under narcotics, in trance states, ecstatic states, in dreams, in hypnotic and mediumistic states.

Besides our own minds and those which are in us, unknown to ourselves but indissolubly connected with us, we are also surrounded by many *other* minds which we also do not know. These minds we often *feel*, they are made up of our minds. We enter into our mind as their component parts, just as other minds enter into our mind. These minds are the good or evil spirits which help us or do us harm. *Family*, community, nation, race - any aggregate to which we belong (an aggregate unit undoubtedly possesses its own mind), every group of people which has its separate function and is aware of its inner

coherence and unity, such as a philosophical school, a church, a sect, a masonic order, a society, a party, etc., is undoubtedly a living being, possessing a certain intelligence. A people, a nation is a living being; mankind is also a living being. It is the *Great Man*, the ADAM KADMON of the Kabalists. ADAM KADMON is a being living in men, including in himself the minds of all men. H. P. Blavatsky speaks about this in her voluminous work, *The Secret Doctrine*: 'it is not the Adam of dust (of Genesis, Chapter II), who is thus made in the divine image, but the Divine Androgyne (of Chapter I), or Adam Kadmon.* ADAM KADMON is HUMANITY or the human race - *Homo sapiens* - 'a being with the body of an animal and the face of a superman'.

Entering as a component part into various great and complex minds, man himself consists of innumerable big and small minds, many of which, while existing in him, do not even know one another, just as people living in the same house may not know one another. On the whole, if we pass to analogies, 'man' has much in common with a *house* filled with the most varied inhabitants, or even more so with a large ocean liner carrying a great many chance passengers, each going to his own destination for his own purpose, and including the most diverse elements. Each separate unit of the population of this liner orientates from himself, involuntarily and unconsciously taking himself for the centre of the liner. This is an approximately true picture of a human being.

Perhaps it would be even more appropriate to compare man with some separate corner of the earth, living a life of its own: with a forest lake full of the most varied life, reflecting the sun and the stars and concealing in its depths some phantasm incomprehensible to itself, perhaps an undine, perhaps a water-sprite.

If we abandon analogies and pass on to real facts as far as they are accessible to our observation, it is necessary to begin with several somewhat artificial divisions of the human being. The old division into body, soul and spirit has some good points but often leads into error, for attempts at such a division immediately bring about disagreements as to where the body ends and the soul begins, where the soul ends and the spirit begins, etc. There are no strict dividing lines in this, nor can there be. Besides, one is led astray by the fact that body, soul and spirit are *set against one* another, are taken in this case as mutually *inimical* principles. This also is entirely wrong, for the

* H. P. Blavatsky, *The Secret Doctrine*, London and New York, Theosophical Publishing Society, 1897, vol. 3, p. 146.

body is the expression of the soul, and the soul is the expression of the spirit.

The very terms, body, soul and spirit, need elucidation. The 'body' is the physical body with its intelligence scarcely comprehensible to us; the 'soul' is the *mind* studied by scientific psychology, i.e. reflected activity which is controlled by impressions coming from the external world and the body. The 'spirit' is those higher principles which direct, or under certain conditions may direct, the life of the soul.

1 The body is the domain of instincts and the inner instinctive consciousnesses of separate organs, parts of the body and the whole organism.

2 The soul consists of sensations, representations, concepts, thoughts, emotions and desires.

3 - is the region of the unknown.

In the usual conditions of the inner life of an ordinary man the focus of his consciousness, which is constantly shifting from one object to another, lies in his *mind*.

I am hungry.

I read a newspaper.

I expect a letter.

Only rarely does it touch the regions which are open to religious, aesthetic and moral emotions and the higher intellect which finds expression in abstract thinking connected with moral and aesthetic feeling, i.e. with the realization of the necessity to *co-ordinate* thought, feeling, word and deed.

But usually, in saying 'I', a man means not the total complex of all the three domains, but that which is at the moment in the focus of his consciousness. I *want*: these words which play the most important role in man's life, are usually far from referring simultaneously to all the sides of his being; as a rule they refer merely to some very small and insignificant facet which at the given moment fills the focus of consciousness and subjugates all the rest, until it is driven out by another equally insignificant facet.

And in the mind of a man there goes on an endless shifting of view from one object to another. Through the focus of perception there runs a continuous cinema film of feelings and impressions and each separate impression determines the 'I' of the given moment.

From this point of view the mind of a man has often been compared to a dark sleeping city in the midst of which watchman's lanterns

slowly move about, each throwing light on a small circle round itself. This is a perfectly true analogy. At each moment there come into focus a few of these circles illumined by the flickering light while the rest is plunged into darkness.

Each small illumined circle represents an 'I', living its own life, at times very brief. And the movement goes on endlessly, now fast, now slow, bringing out into the light more and more new objects, or else old ones from the realm of memory, or in torment going round and round the same persistent thoughts.

This continuous movement which goes on in our mind, this constant shirting of light from one 'I' to another, may perhaps explain the phenomenon of *motion* in the external visible world.

Intellectually we know that there is no such motion. We know that *everything exists* in the infinite spaces of time, that nothing happens, nothing becomes, *everything is*. But we do not see everything at once, and so *it seems to us* that everything moves, grows, becomes. We do not see everything at once either in the external world or in our inner one, and this produces the illusion of motion. For instance, we drive swiftly past a house, and the house turns as we go by. But if we could see it not with our eyes, not in perspective, but by some kind of vision simultaneously from all sides, from above and below and from within, we should not see any illusory motion but should see the house standing completely motionless as it stands in reality. And mentally we know that the house has not moved.

The same applies to everything else. Motion, growth, 'becoming', which go on in the world around us are no more real than the movement of the house as we drive by, or the movement of the trees and fields past the window of a fast-moving railway carriage.

Movement goes on inside us, and it produces the illusion of movement around us. The illumined circle shifts quickly from one 'I' to another, from one object, one theme, one representation or image to another; in the focus of consciousness one 'I' rapidly succeeds another, the small flame of consciousness passes from one 'I' to another. This is the only true motion which exists in the world. If this motion were to stop and all the 'I's were to enter simultaneously into the focus of perception; if the light were to expand so as to illumine simultaneously for a man all that it reveals only gradually and piecemeal, if a man were able at once to embrace with his mind all that ever entered his perception and all that is never clearly illumined by thought, though it affects his mind - then a man might perhaps find himself in the midst of a *motionless universe*, containing simultaneously all that usually lies for a man in the remote depths of

memory, in the past; all that lies at a great distance from him; all that lies in the future.

C. H. Hinton speaks very well about beings of other sections of the world:

[By the same process by which we know that there are other human beings around us, we may learn of the] higher intelligences by whom we are surrounded. We feel them, but do not realize them. To realize them, it will be necessary to develop our powers of perception. The power of seeing with our bodily eye is limited to the three-dimensional section. But. . . the inner eye is not thus limited;. . . we can organize our power of seeing in higher space, and ... we can form conceptions of realities in this higher space, just as we can in our ordinary space.

And this affords the groundwork for the perception and study of these other beings than man. . . .

We are, with reference to the higher things of life, like blind and puzzled children. We know that we are members of one body, limbs of one vine; but we cannot discern, except by instinct and feeling, what the body is, what the vine is. ...

[Our task is to diminish the limitation of our perception.] Nature consists of many entities towards the apprehension of which we strive.

For this purpose, says Hinton, we must first of all introduce into the mind *new concepts* and unify vast fields of observation under one common law. The real history of our intellectual progress *lies in the growth of these new concepts*.

And . . . when the new conception is formed, it is found to be quite simple and natural. We ask ourselves what we have gained; and we answer: Nothing; we have simply removed an obvious limitation. . . .

The question may be put: In what way do we come into contact with . . . higher beings at present? And evidently the answer is. *In those ways in which we tend to form organic unions* - unions in which the activities of individuals coalesce in a living way.

The coherence of a military empire or of a subjugated population, presenting no natural nucleus of growth is not one through which we should hope to grow into direct contact with our higher destinies. But in friendship, in voluntary associations, and above all, in the family, we tend towards our greater life. . . .

Just as, to explore the distant stars of the heavens, a particular material arrangement is necessary which we call a telescope, so to explore the nature of the beings who are *higher than us*, a mental arrangement is necessary. We must prepare our power of thinking as we prepare a more extended power of looking. We want a structure developed inside the skull for the one purpose, while an exterior telescope will do for the other.*

* C. H. Hinton, *A New Era of Thought*, London, George Allen & Unwin, 1910.

This animation of the universe proceeds in the most varied directions. *This tree* is a living being. The birch tree in general - *the species* — is a living being. A birch grove is also a living being. A forest containing different kinds of trees, grass, flowers, ants, beetles, birds, animals - is also a living being, living by the life of everything composing it, thinking and feeling for everything which goes to make it up.

This idea is expressed in a very interesting way in the article by P. Florensky 'Roots of Idealism common to all Mankind' (*Theological Messenger*, 1909, II).

Are there many people for whom a forest is not merely a collective noun and a rhetorical personification, i.e. a pure fiction, but something which is one and alive? . . . Real oneness is the oneness of self-consciousness. . . . Are there many who recognise the oneness of a forest, i.e. the living soul of the forest as an entity - the *wood-spirit*, the *Old Nick*? Do you consent to recognize undines and water-sprites - those souls of the aquatic element?

The life activity of such composite beings as forests is not the same as the life activity of *individual species* of plants and animals, and the life activity of *species* is not the same as the life activity of separate individuals.

To be more exact, the difference of functions expressed in different life activity points to the differences in the mental life of the different 'organisms'. The life activity of a *separate birch leaf* is naturally infinitely below the life activity of a *tree*, the life activity of a tree is not the same as that of a species; and the life of a species is not the same as the life of a forest.

The functions of these four 'lives' are totally different, and so their intelligences must be correspondingly different too.

The intelligence of an individual cell of the human body must be as much lower in comparison with the intelligence of the body, i.e. the 'physical mind of man', as its life activity is lower in comparison with the life activity of the whole organism.

Thus, from a certain point of view, we may regard the noumenon of a phenomenon as the soul of that phenomenon; in other words we may say that the hidden *soul of a phenomenon* is its noumenon. The concept of the *soul of a phenomenon* or the *noumenon of a phenomenon* includes life and consciousness, and their functions in sections of the world incomprehensible to us - the manifestation of which in our sphere constitutes a phenomenon.

The idea of an animate universe leads inevitably to the idea of the 'World Soul' — a 'Being' whose manifestation is the visible universe.

The idea of the 'World Soul' was most picturesquely understood in ancient religions of India. The mystic poem, the *Bhagavad Gita* gives a wonderful image of *Mahadeva*, i.e. the great *Deva*, whose life is our world.

Thus Krishna explained his doctrine to his disciples ... he gradually raised them to the sublime truths which had been opened out to himself in the lightning-flash of his vision. When he spoke of Mahadeva his voice became more serious in tone, and his countenance lit up. One day Arjuna, overcome by curiosity, asked boldly: 'Show us Mahadeva in his divine form. Can our eyes behold him?' Then Krishna ... began to speak of the Being who breathes in all beings, of a hundred thousand shapes, countless eyes, and faces turning in every direction, who yet surpasses them all by the very height of infinity; who in his motionless and limitless body encloses the moving universe with all its divisions. 'If there were to burst forth simultaneously in the heavens the glory of a thousand suns,' said Krishna, 'it would bear but a faint resemblance to the splendour of the one All-Mighty.' As he thus spoke of Mahadeva, so glorious a ray of light beamed forth from Krishna's eyes that the disciples could not bear its brilliancy, but threw themselves down at his feet. Arjuna's hair stood on end, and with bowed head and clasped hands he said: 'Master, thy words terrify us, we cannot endure the sight of the great Being thou hast summoned up before us. It utterly confounds us.*

In an interesting book of lectures by Professor James, *A Pluralistic Universe*, there is a lecture on Fechner, devoted to 'a conscious universe':

Ordinary monistic idealism leaves everything intermediary out. It recognizes only the extremes, as if, after the first rude face of the phenomenal world in all its particularity, nothing but the supreme in all its perfection could be found. First, you and I, just as we are in this room; and the moment we get below that surface, the unutterable absolute itself! Doesn't this show a singularly indigent imagination? Isn't this brave universe made on a richer pattern, with room in it for a long hierarchy of beings? Materialistic science makes it infinitely richer in terms, with its molecules, and aether, and electrons, and what not. Absolute idealism, thinking of reality only under intellectual forms, knows not what to do with *bodies* of any grade, and can make no use of any psycho-physical analogy or correspondence.**

Fechner, from whose writings Professor James makes extensive quotations, adopted quite a different point of view. Fechner's ideas

* From E. Schure, *The Great Initiates*, trs. F. Rothwell, London, W. Rider, 1922, vol. I, reprinted New York, Multimedia, 1976, p. 123.

** William James, *A Pluralistic Universe*, London, Longmans Green, 1909.

are so near to what was said in the previous chapters that we must dwell on them at greater length.

I quote the words of Professor James:

The original sin, according to Fechner, of both our popular and our scientific thinking, is our inveterate habit of regarding the spiritual *not as the rule but as an exception* in the midst of nature. Instead of believing our life to be fed at the breasts of the greater life, our individuality sustained by the greater individuality, which must necessarily have more consciousness and more independence than all that it brings forth, we habitually treat whatever lies outside of our life as so much slag and ashes of life only;

or if we believe in a Divine Spirit, we fancy him on the one side as bodiless, and nature as soulless on the other. What comfort, or peace, Fechner asks, can come from such a doctrine? The flowers wither at its breath, the stars turn into stone; our own body grows unworthy of our spirit and sinks to a tenement for carnal senses only. The book of nature turns into a volume of mechanics, in which whatever has life is treated as a sort of anomaly;

a great chasm of separation yawns between us and all that is higher than ourselves; and God becomes a thin nest of abstractions.

Fechner's great instrument for verifying the daylight view is analogy. ... *Bain defines genius as the power of seeing analogies*. The number that Fechner could perceive was prodigious; but he insisted on *the differences as well*. Neglect to make allowances for these, he said, is the common fallacy in analogical reasoning.

Fechner thus admits that, since every living body has a mind, so every mind must possess a body. But it does not follow that all bodies must be alike, and that the bodies of beings of a higher order should be like ours. Our body is adapted to the conditions of our life. Other conditions of life must engender other bodies.

The vaster orders of mind go with vaster orders of body. The entire earth on which we live must have, according to Fechner, its own collective consciousness. So must each sun, moon and planet; so must the whole solar system have its own wider consciousness, in which the consciousness of our earth plays one part. So has the entire starry system as such its consciousness; and if that starry system be not the sum of all that *is*, materially considered, then the whole system, along with whatever else may be, is the body of that absolutely totalized consciousness of the universe to which men give the name of God.

Speculatively, Fechner is thus a monist in his theology; but there is room in his universe for every grade of spiritual being 'between man and the final all-inclusive God'. . . .

The earth-soul he passionately believes in; he treats the earth as our special human guardian angel; we can *pray to the earth* as men pray to their saints.

His most important conclusion is, that the constitution of the world is identical throughout. In ourselves, visual consciousness goes with our

eyes, tactile consciousness with our skin. But although neither skin nor eye knows aught of the sensations of the other, they come together and figure in some sort of relation and combination in the more inclusive consciousness which each of us names his *self*. Quite similarly, then, says Fechner, we must suppose that my consciousness of myself and yours of yourself, although in their immediacy they keep separate and know nothing of each other, are yet known and used together in a higher consciousness, that of the human race, say, into which they enter as constituent parts.

Similarly, the whole human and animal kingdoms come together as conditions of a consciousness of still wider scope. This combines in the *soul of the earth* with the consciousness of the vegetable kingdom, which in turn contributes its share of experience to that of the whole solar system, etc.

The supposition of an earth-consciousness meets a strong instinctive prejudice. All the consciousness we directly know seems told to brains. But our brain, which primarily serves to correlate our muscular reactions with the external objects on which we depend, performs a function which the earth performs in an entirely different way. She has no proper muscles or limbs of her own, and the only objects external to her are the other stars. To these her whole mass reacts by most exquisite alterations in its total gait, and by still more exquisite vibratory responses in its substance. Her ocean reflects the lights of heaven as on a mighty mirror, her atmosphere refracts them like a monstrous lens, the clouds and snow-fields combine them into white, the woods and flowers disperse them into colours. Polarization, interference, absorption awaken sensibilities in matter of which our senses are too coarse to take any note.

For these cosmic relations of hers, then, she no more needs a special brain than she needs eyes or ears. *Our* brains do indeed unify and correlate innumerable functions. Our eyes know nothing of sound, our ears nothing of light, but having brains we can feel sound and light together, and compare them. . . . Must every higher means of unification between things be a literal brain-fibre? Cannot the earth-mind know otherwise the contents of our minds together?

In a striking page Fechner relates one of his moments of direct vision of truth.

'On a certain morning I went out to walk. The fields were green, the birds sang, the dew glistened, the smoke was rising, here and there a man appeared, a light as of transfiguration lay on all things. It was only a little bit of earth; it was only one moment of her existence; and yet as my look embraced her more and more it seemed to be not only so beautiful an idea, but so true and clear a fact, that she is an angel - an angel carrying me along with her into Heaven. ... I asked myself how the opinions of men could ever have so spun themselves away from life as far as to deem earth only a dry clod. . . . But such an experience as this passes for fantasy. The earth is a globular body, and what more she may be, one can find in mineralogical cabinets.'

The special thought of Fechner's is his belief that the more inclusive forms of consciousness are in part *constituted* by the more limited forms. Not that they are the mere sum of the more limited forms. As our mind is

not the bare sum of our sights plus our sounds plus our pains, but in adding these terms together it also finds relations among them and weaves them into schemes and forms and objects of which no one sense in its separate estate knows anything, so the earth-soul traces relations between the contents of my mind and the contents of yours of which neither of our separate minds is conscious. It has schemes, forms, and objects proportionate to its wider field, which our mental fields are far too narrow to cognize. By ourselves we are simply out of relation with each other, for we are both of us there, and *different* from each other. . . . What we are without knowing, it knows that we are. It is as if the total universe of inner life had a sort of grain of direction, a sort of valvular structure, permitting knowledge to flow in one way only, so that the wider might always have the narrower under observation, but never the narrower the wider.

Fechner likens our individual persons on the earth unto so many sense-organs of the earth-soul. We add to its perceptive life. . . . It absorbs our perceptions into its larger sphere of knowledge, and combines them with the other data there. The memories and conceptual relations that have spun themselves round the perceptions of a certain person remain in the larger earth-life as distinct as ever, and form new relations. . . .

These ideas of Fechner's are expounded in his book, *Zendavesta*. *

I have made such a long quotation from Professor James's book in order to show that ideas of the world as *animated* and *intelligent* are in no way new or paradoxical. It is a natural and logical necessity, springing from a wider view of the world than that which we usually permit ourselves.

Logically we must either admit different levels of life and intelligence in everything, in all 'dead nature', or deny them altogether, even IN OURSELVES.

* *Ibid.*

CHAPTER 18

Intelligence and life. Life and knowledge. Intellect and emotions. Emotion as an instrument of knowledge. The evolution of emotions from the standpoint of knowledge. Pure and impure emotions. Personal and super-personal emotions. The elimination of self-element as a means of approach to true knowledge. 'Be as little children. . . .' 'Blessed are the pure in heart. . . .' The value of morality from the standpoint of knowledge. The defects of intellectualism. 'Dreadnoughts' as the crown of intellectual culture. The dangers of moralism. Moral aestheticism. Religion and an as organized forms of emotional knowledge. The knowledge of GOD and the knowledge of BEAUTY.

The MEANING OF LIFE - this is the eternal subject of human speculations. All philosophical systems, all religious teachings strive to find and give men an answer to the question: what constitutes the meaning of life? Some say that the meaning of life lies in our enjoyment of it 'while waiting for the final horror of death'. Others say that the meaning of life consists in self-improvement and creating for oneself a better future *beyond the grave*, or in future lives. A third group say that the meaning is in the approach to *non-being*. The fourth say that the meaning lies in the perfection of the race, in the 'ordering of life on earth'. The fifth deny all possibility of looking for a meaning, and so on.

All these explanations suffer from one defect - they all try to find the meaning of life *outside it* - either in the future of mankind, or in the problematical existence after death, or in the evolution of the *Ego* through long successive reincarnations - always in something *outside* the present life of man. But if, instead of speculating, men would simply look within themselves, they would see that in actual fact the meaning of life is not, after all, so obscure. IT CONSISTS IN KNOWLEDGE. All life, by all its facts, events and accidents, agitations and attractions always leads us to the KNOWLEDGE OF SOMETHING. All life experience is KNOWLEDGE. The strongest emotion in man is a yearning for the unknown. EVEN IN LOVE, the strongest attraction to which everything else is sacrificed, is the attraction of the unknown, the NEW *-curiosity*.

The Persian poet-philosopher Al-Ghazzali says: 'The highest function of man's soul is the perception of truth.'*

In the beginning of this book INNER LIFE and THE OUTER WORLD were recognized as existing. The world is everything that exists. The function of inner life may be defined as the *realization of existence*.

Man realizes his existence and the existence of the world of which he is a part. His relation to himself and to the world is called knowledge. The broadening and deepening of the relation to oneself and the world is a broadening of knowledge.

All the mental faculties of man, all the elements of his inner life - sensations, representations, concepts, ideas, judgments, conclusions, feelings, emotions, even creation - all these are the *instruments of knowledge* which we possess.

Feelings - from the simple emotions to the highest, such as aesthetic, religious and moral emotions - and creation, from the creation of a savage fashioning himself a stone hatchet, to the creation of Beethoven, are *means of knowledge*. Only to our narrow HUMAN view do they seem to serve other purposes - the protection of life, the creation of something, or enjoyment. In actual fact all this *serves* knowledge.

Evolutionists, the followers of Darwin, will say that the struggle for existence and the selection of the fittest have created the *mind and feeling* of the modern man - that mind and feeling *serve life*, protect the life of separate individuals or of the species and that, *apart from this*, in themselves, they have no meaning. To this one can oppose the same argument as was used against the idea of the *mechanicalness* of the universe. Namely, if intelligence exists, then nothing exists except intelligence. The struggle for existence, and the survival of the fittest, if they in truth play such a role in the creation of life, are also not accidents, but products of an intelligence WHICH WE DO NOT KNOW. And, like everything else, they serve KNOWLEDGE.

But we do not realize, do not see the presence of intelligence in the phenomena and laws of nature. This happens because we always study not the whole but a part, and we do not see the whole we wish to study. But studying the little finger of a man we cannot see the intelligence of the man. The same refers to nature. We always study the little finger of nature. If we realize this and understand that EVERY

LIFE IS THE MANIFESTATION OF A PART OF SOME WHOLE, Only then a possibility opens of knowing that whole.

In order to know the intelligence of a given whole, one should

* Al-Ghazzali, 'The Alchemy of Happiness'.

understand the character of that whole, and its functions. Thus the function of man is knowledge and self-knowledge. But without understanding 'man' as a whole, it is impossible to understand his function.

In order to understand what is our mind, the function of which is knowledge, it is necessary to make clear our relation to life.

In Chapter 10 an attempt was made (based on an analogy with the world of imaginary two-dimensional beings), to define *life* as motion in a sphere higher in comparison with a given sphere. From this point of view every separate *life* is, as it were, the manifestation in our sphere of a part of one of the intelligences of another sphere. These intelligences seem to look in on us by means of lives which we see. When a man dies, *one eye of the universe closes*, says Fechner. Every separate human life is a moment of the life of the *great being* which lives *in us*. Every separate life of a tree is a moment of the life of the *being* of the species or the variety. The intelligences of these *higher* beings do not exist independently of the lower lives. They are two sides of one and the same thing. Each *single* human mind, in some other section of the world may produce the illusion of many lives.

It is very difficult to illustrate this by an example. But if we take Hinton's spiral, passing through a plane, and a point running in circles on the plane (Chapter 6, pp. 52-3) and suppose that the spiral is the mind, then the moving point of intersection of the spiral with the plane would represent *a life*. This example illustrates the possible relation between mind and life.

Life and *mind* seem to us different and separate from one another, because we do not know how to look, how to see. And this in its turn is due to the fact that it is very hard for us to get out of the framework of our *divisions*. We see the life of a tree, *this tree*. And if we are told that the life of the tree is a manifestation of some mind, we understand it to mean that the life of *this tree* is a manifestation of the mind of *this tree*. This, of course, is an absurdity resulting from our three-dimensional thinking, the 'Euclidean mind'. The life of *this tree* is a manifestation of the mind of the *species* or the *variety*, or perhaps of the intelligence of *the whole vegetable kingdom*.

In the same way our individual *lives* are manifestations of some great intelligence. Proof of this is found in the fact that our lives have no meaning whatever apart from the process of acquiring *knowledge*. And a thoughtful man ceases to feel painfully the absence of meaning in life only when he realizes this and begins to strive *consciously* in that direction which he was unconsciously following before.

Moreover, this acquisition of knowledge, which constitutes *our*

function in the world, is achieved not only by our intellect, but by our whole organism, all our body, all our life and the whole life of the human society, by its organizations, institutions, the whole culture and the whole civilization, by all we know in mankind and even more so by what we do not know. And we get to know that which we deserve to know.

If we say about the intellectual side of man that its purpose is the acquisition of knowledge, this will not evoke any doubt. All are agreed that man's intellect, with all its subordinate functions, exists for the purpose of acquiring knowledge, although very often the faculty of knowledge is regarded as subordinate. But as regards the emotions: joy, sorrow, anger, fear, love, hate, pride, compassion, jealousy; as regards the sense of beauty, aesthetic sense and artistic creation; as regards moral sense; as regards all religious emotions:

faith, hope, veneration and so on, as regards all human *activity*, things are not so clear. As a rule we do not see that all emotions and *all* human activity serve knowledge. In what way can *fear* or *love* or *work* serve knowledge? It seems to us that by *emotions* we feel, by *work* we create. *Feeling* and *creation* seem to us something different from *knowledge*. Concerning work, creation, the making of something, we are rather apt to think that they *require* knowledge and if they serve it, do so only indirectly. In the same way we cannot understand how *religious emotions* can serve knowledge.

Usually *the emotional* is opposed to *the intellectual*: 'heart' is opposed to 'reason'. 'Cold reason' or intellect is placed on one side, and on the other side: feelings, emotions, artistic sense; then, again quite separately, moral sense, religious feeling, 'spirituality'.

The misunderstanding here lies in the interpretation of the words *intellect* and *emotion*.

Between intellect and emotion there is no sharp distinction. Intellect, taken as a whole, is also emotion. But in ordinary conversational language and in 'conversational psychology' *reason* is opposed to *feeling*; then comes *will*, placed as a separate and independent faculty; moralists place *moral sense* as something quite apart; religious people place *spirituality* or *faith* as something entirely separate.

It is often said: reason conquered feeling; will conquered desire; the sense of duty overcame passion; spirituality conquered intellectuality; faith conquered reason. But all these are wrong expressions of conversational psychology, just as incorrect as the expressions 'sunrise' and 'sunset'. In the soul of man there is nothing but

emotions or their harmonious co-existence. This was clearly realized by Spinoza when he said that an emotion can be overcome only by another, stronger emotion, and by *nothing else*. Reason, will, sense of duty, faith, spirituality, conquering some other emotion, can only conquer it by the *emotional element* contained in them. The ascetic who kills all desires and passions in himself, kills them by his *desire* for salvation. A man who renounces all worldly pleasures, renounces them for the sake of *enjoying* his sacrifice, his renunciation. A soldier who dies at his post through a *sense of duty* or habit of obedience does so because the emotion of *devotion or faithfulness*, or customary passivity are stronger in him than all the rest. A man whose moral sense tells him that he must overcome his passion, does so *because* moral sense (i.e. a certain emotion) is stronger in him than his other feelings, other emotions. Actually, all this is as clear and simple as the day, and people get muddled only because, in calling different degrees of one and the same thing by different names, they begin to see *fundamental differences* where the difference is only that of *degree*.

Will is *the resultant of desires*. We call *strong-willed* a man whose will follows a definite line without deviation from it, and we call *weak-willed* a man whose will follows a zig-zag course, deviating now in one, now in another direction under the influence of every new desire. But this does not mean that *will* and *desire* are two opposite things. On the contrary, they are one and the same thing, because will is built up of desires.

Reason cannot conquer feeling, because feeling can only be conquered by feeling. Reason can only provide thoughts and images which would evoke feelings, *and these* conquer the feeling of the given moment. *Spirituality* is not something opposed to 'intellectuality' or 'emotionality'. It is only THEIR HIGHER FLIGHT. Reason has no bounds. Limitation is a characteristic that belongs only to the human 'Euclidean' mind - the intellect separated from emotions.

What then is reason?

Reason is the inner side of the life of every given being. In the living kingdom of the earth, in all the animals lower than man, we see a *passive reason*. But with the appearance of *concepts* reason becomes active, and a part of it begins to work as intellect. An animal lives by sensations and emotions. In an animal the intellect is only in an embryonic state, as an emotion of *curiosity*, the *pleasure of knowing*.

In a man the growth of reason consists in the growth of the intellect and in the accompanying growth of higher emotions: aesthetic, religious, moral - which, as they grow, become more and more

intellectualized; moreover, simultaneously with this the intellect becomes impregnated with emotionality and ceases to be 'cold'. Thus 'spirituality' is the merging together of the intellect and the higher emotions. The intellect is *spiritualized* from the emotions; the emotions are *spiritualized* from the intellect.

The functions of reason are not limited, but the human intellect does not often rise to its highest form. At the same time, it would again be incorrect to say that the highest human form of knowledge will no longer be intellectual, but will be something different; only this higher reason is entirely unrestricted by *logical concepts* and the Euclidean sphere. We shall hear a great deal about this from the side of *mathematics* which has actually transcended the domain of logic long ago. But it transcended it *with the help of the intellect*. New perception grows on the soil of the intellect and the higher emotions, but is not created by them. A tree grows from the earth, but is not created by the earth. A seed is necessary. This seed may or may not be in the soul. When it is there, it may be made to sprout or it may be choked; when it is not there, nothing else can take its place. And a soul (if it may be called soul) deprived of this seed, i.e. incapable of feeling and reflecting the world of the miraculous, will never produce a living shoot but will always *reflect only the phenomenal world*.

At the present stage of his development, while man learns to know many things by means of the intellect, he also knows a great many things through emotions. Emotions are in no way instruments of feeling *for the sake of feeling*; they are all - instruments of knowledge. By every emotion man learns to know something he cannot know without its help - something he cannot know by any other emotion or by any effort of the intellect. If we consider the emotional nature of man as limited by itself, as serving *life* without serving *knowledge*, we shall never understand its true content and significance. Emotions serve knowledge. There are things and relations which can be known only emotionally and only through *a given emotion*.

To understand the psychology of *gambling* it is necessary to feel the emotions of a gambler; to understand the *psychology of the hunt* it is necessary to feel the emotions of the hunter; the psychology of a man in love is incomprehensible to a man who is indifferent; the state of mind of Archimedes when he jumped out of the bath is incomprehensible to the placid citizen who thinks him insane; the feelings of a traveller, breathing in the sea air and gazing at the vast expanse of the sea, are incomprehensible to a man content with his sedentary life. The feelings of a believer are incomprehensible to an unbeliever, and

the feelings of an unbeliever are incomprehensible to a believer. The reason why men understand one another so little is that they always live by *different* emotions. And they understand one another only when they happen simultaneously to experience identical emotions. Popular wisdom is well aware of this fact: 'A FULL MAN DOES NOT UNDERSTAND A HUNGRY ONE', it says; 'a drunken man is no companion for a sober one'; 'birds of a feather flock together'.

In this mutual understanding, or in the illusion of a mutual understanding from being immersed in similar emotions, lies one of the main charms of love. Guy de Maupassant expressed this very well in his short sketch 'Solitude'. In this same illusion lies the secret of the power of *alcohol* over human souls, because alcohol produces the illusion of *communion of souls* and stimulates fantasy *simultaneously* in two or more people.

Emotions are the stained-glass windows of the soul, coloured windows, through which the soul looks at the world. Each of these windows helps to discover certain colours in the object under examination, but at the same time it conceals the contrasting ones. Consequently the saying is quite correct that a one-sided emotional illumination can never give a right idea of an object. Nothing gives one such a clear idea of things as the emotions, and nothing misleads one as much as the emotions.

Each emotion has its own purpose of existence; but the *cognitive value* of emotions is different. There are emotions which are necessary, important, indispensable for a life of knowledge - and there are emotions which hinder rather than help understanding.

Theoretically all emotions serve knowledge: all emotions arise *as a consequence of* the cognition of one or another thing. Let us take one of the most elementary emotions, say the EMOTION OF FEAR. Undoubtedly there are relations which can be known *only through fear*. A man who has never experienced fear will never understand many things in life and in nature; he will not understand many of the principal motives of the life of mankind. What else but the fear of hunger and cold forces the majority of men to work? He will fail to understand a great many relations in the animal kingdom. For instance, he will never understand the essence of the relationship of mammals to reptiles. A snake evokes a feeling of repulsion and fear in all mammals. Through this *repulsion and fear* a mammal *learns to know* the nature of the snake and the relation of that nature to its own, and the knowledge it thus gains is quite correct, but *strictly personal*, only from *its own point of view*. What the snake is *in itself* - not in the philosophical sense of *a thing in itself*, but simply from the point of

view of zoology (and not from the point of view of a man or an animal whom the snake has bitten or may bite) - this MAY BE KNOWN ONLY

BY THE INTELLECT.

Emotions are connected with the different 'I's of our mental life. An emotion which looks exactly the same at the first glance, may be connected with very small 'I's or with very big 'I's. And, in accordance with this, the role and significance of that emotion in man's life may be very different. The establishment of a *permanent 'I'* is hindered principally by a constant changing of emotions, each of which calls itself 'I' and strives to seize power over man. And this is a particularly great hindrance when emotions arise and develop in those realms of the inner life which are connected with a certain kind of self-awareness or self-affirmation. These are the so-called *personal emotions*.

The sign of the growth of the emotions is their liberation from the *personal element* and their transition to higher planes. The liberation from personal elements enhances the cognitive power of emotions, because the more personal elements there are in an emotion, the more capable it is of leading into delusion. A personal emotion is always *biased*, always *unfair*, if only for the reason that it opposes *itself* to everything else.

Thus the cognitive power of an emotion is proportionately greater when a given emotion contains less *self-element*, i.e. when there is a stronger realization that the given emotion is not 'I'.

We have seen earlier in studying space and its laws that the evolution of knowledge consists in a gradual withdrawal from oneself. Hinton expresses it very well. He says all the time that only by *withdrawing from* self do we begin to understand the world as it is. The whole system of mental exercises with multi-coloured cubes, worked out by Hinton, aims at the training of a consciousness which will look at things not from a pseudo-personal point of view:

When we study a block of cubes [say a cube composed of 27 smaller cubes], we first of all learn it by starting from a particular cube, and learning how all the others come with regard to that. We learn the block with regard to this axis, so that we can mentally conceive the disposition of every cube as it comes regarded from one point of view. Next we suppose ourselves to be in another cube at the extremity of another axis; and looking from this axis, we learn the aspects of all the cubes, and so on. . . . In this way we get a knowledge of the block of cubes. Now to get a knowledge of humanity ... it is by acting with regard to the view of each individual that a knowledge is obtained.

[An egotist may be compared with a man who knows the cube only from one point of view.]

Those who feel superficially with a great many people, are like those learners who have a slight acquaintance with a block of cubes from many points of view. Those who have some deep attachments, are like those who know them well from one or two points of view. . . .

And after all, perhaps, the difference between the *good* and the rest of us, lies in the former being *aware*. There is something outside them which draws them to it, which they see while we do not.*

Just as it is wrong in relation to oneself to evaluate everything from the point of view of *one emotion*, opposing it to all the rest, so it is wrong in relation to the world and to people to evaluate everything from the point of view of some one accidental 'I' of one's own, opposing the self of a given moment to all the rest.

Thus the problem of right emotional knowledge is to *feel* in relation to people and the world *from a point of view other than the personal*. And the wider the circle *for which* a given person feels, the deeper the knowledge which his emotions give. But not all emotions are capable in equal measure of being freed from *self-elements*. There are emotions which by their very nature *divide*, estrange, alienate, make a man feel himself as someone apart, separate; such are hate, fear, jealousy, pride, envy. These are emotions of a *material order*, making one believe in matter. And there are emotions which *unite*, bring together, make a man feel a part of some large whole; such are love, sympathy, friendship, compassion, love of one's country, love of nature, love of mankind. These emotions lead a man out of the material world and show him the truth of the world of fantasy. Emotions of the second order are more easily freed from self-elements than emotions of the first order. Although at the same time there can be quite an *impersonal* pride - pride in some heroic deed performed by *another man*. There may even be an *impersonal* envy, when we envy a man who has conquered himself, conquered his *personal* desire to live, sacrificed himself for something which everybody considers to be *right and just* and yet which other people cannot bring themselves to do; dare not even think about *through weakness, through attachment to life*. There may be an *impersonal* hatred -hatred of injustice, violence, anger against stupidity, against dullness; aversion to foulness, to hypocrisy. These feelings undoubtedly lift up and purify man's soul and help him to *see* things which he would not otherwise see.

Christ driving the money-changers out of the temple or expressing

* C. H. Hinton, *A New Era of Thought*, London, George Allen & Unwin, 1910, pp. 77, 78.

his opinion of the Pharisees was not at all meek or mild. And there are cases where meekness and mildness are not a virtue at all. Emotions of love, sympathy, pity are very easily transformed into sentimentality, into weakness. And in this form they naturally serve only *absence of knowledge, i.e. matter*. The difficulty of dividing emotions into categories is increased by the fact that all emotions of the higher order, without exception, can also be personal, and then their effect is no different from that of the other category.

There exists a division of emotions into PURE and IMPURE. We all know this, we all use these words, but we understand very little what this means. Indeed, what does 'pure' or 'impure' mean in relation to feeling?

Ordinary morality divides emotions, *a priori*, into pure and impure according to external traits, just as Noah divided animals in his ark. Moreover, all 'carnal desires' are relegated into the category of the IMPURE. In reality, however, 'carnal desires' are, of course, as pure as everything else in nature. Nevertheless there actually are pure and impure emotions. We are well aware that there is truth in this division. Where is it then? What does it mean?

An examination of emotions from the point of view of knowledge can alone give a key to this problem.

An impure emotion is exactly the same as a dirty glass, dirty water or an impure sound, i.e. an emotion which is *not* pure, which contains foreign matter or a sediment, or echoes of other emotions;

IMPURE-MIXED. An impure emotion gives an obscured, *not pure* knowledge, just as a dirty glass gives a confused image. A pure emotion gives a clear, pure image of the knowledge which it is intended to transmit.

This is the only possible solution of the problem. The main obstacle which prevents us from arriving at this solution is the usual moral tendency which has divided emotions *a priori* into 'moral' and 'immoral'. But if we try for a moment to discard the usual moral framework, we shall see that the matter is much more simple, that there are no emotions impure *in their nature*, and that *every emotion* may be either pure or impure according to whether it contains an admixture of other emotions or not.

There may be pure sensuality, the sensuality of the 'Song of Songs', which passes into the sensation of cosmic life and enables one to hear the beating pulse of Nature. And there may be impure sensuality, mixed with other emotions, good or bad from the moral point of view, but equally making sensuality turbid.

There may be pure sympathy — and there may be sympathy mixed with calculation to receive something for one's sympathy. There may be pure desire to know, a thirst for knowledge for the sake of knowledge, and there may be a pursuit of knowledge led by considerations of *profit* and *gain* to be derived from this knowledge.

In their external manifestations pure and impure emotions may differ very little. Two men may play chess and be quite alike in their outward behaviour, but one may be driven by ambition, desire of victory, and he will be full of different unpleasant feelings towards his opponent - apprehension, envy of a clever move, vexation, jealousy, animosity, or anticipation of his winnings; but another may simply try to solve the complicated mathematical problem before him, without giving a thought to his opponent.

The emotion of the first will be impure if only because too much is mixed with it. The emotion of the second will be pure. The meaning of this is, of course, perfectly obvious.

Examples of such a division of outwardly similar emotions may be constantly seen in artistic, literary, scientific, social and even in spiritual and religious activities of men. In all domains only complete victory over the self-element leads man to a right knowledge of the world and himself. All emotions coloured by the SELF-ELEMENT are like concave, convex or distorting glasses which refract the rays incorrectly and so distort the image of the world.

Thus the problem of emotional knowledge consists in a corresponding preparation of the emotions which serve as instruments of knowledge.

'Become as little children . . .' and 'Blessed are the pure in heart. . . .' These words of the Gospels speak, first of all, about the purification of emotions. It is impossible to know rightly through impure emotions. Therefore, in the interests of a right knowledge of the world and oneself, the work of purification and elevation of emotions should go on in man.

This last brings us to a totally new view of *morality*. Morality, the aim of which consists precisely in establishing a system of right relationship to emotions and in assisting their purification and elevation, ceases to be in our eyes a tedious and self-contained exercise in virtue. Morality is a form of aesthetics.

That which is not *moral* is first of all not aesthetic, because it is not coordinated, not harmonious.

We see all the enormous significance morality can have in our life; we see the significance morality has *for knowledge* because there are emotions through which we *gain knowledge*, and there are emotions

by which we are led astray. If morality can indeed help us to discriminate between them, then its value is incontestable precisely from the point of view of *knowledge*.

The psychology of our ordinary conversational language knows very well that malice, hatred, anger BLIND a man, DIM his reason; it knows that fear DRIVES ONE INSANE, and so on and so on.

But we also know that *every emotion* may serve knowledge and absence of knowledge.

Let us take an emotion, valuable and capable of a very high evolution, such as *pleasure in activity*. This emotion is a powerful moving force in culture, it serves the perfecting of life and the development of all the higher capacities of man. But the same emotion is also the cause of an endless series of errors and *faux pas* which mankind commits and for which it has afterwards to pay bitterly. In the excitement of activity man easily tends to forget *the aim* for the sake of which he started to act; to take the very activity for the aim; and for the sake of preserving the activity to *sacrifice the aim*. This can be seen especially clearly in the activity of various religious trends. Having started in one direction a man, without noticing it, turns in the opposite direction and very often heads towards the abyss thinking that he is scaling the heights.

Nothing is more contradictory, more paradoxical than a man *absorbed in activity*. We are so used to 'man' that his extraordinary perversions do not strike us as strange.

Violence in the name of freedom. Violence in the name of love. Preaching Christianity sword in hand. The stakes of the Inquisition to the glory of a God of Mercy. The oppression of the freedom of thought and speech on the part of ministers of *religion*. All these are utter absurdities of which only men are capable.

A right understanding of *morality*, not as it is but as it should be, could save us to a great extent from such perversions of thought. Altogether, there is very little morality in our life. European culture has followed the path of intellectual development. The intellect invented and organized without thinking of the moral meaning of its activity, and this led to the result that the crown of European culture is the 'Dreadnought'.

Many people think in this way, and because of this take a negative attitude to all culture. But this also is unfair. Besides the 'Dreadnought', European thought has produced much that is useful and valuable, much that makes life easier. The working out of *principles of freedom and justice*; the abolition of slavery (though nominal); in many spheres, victory over hostile nature; means of disseminating

thought, the press; the miracles of modern medicine and surgery - all these are undoubtedly real achievements and must be taken into consideration. *But there is no morality in them*, i.e. no truth but, on the contrary, a great many lies. We are satisfied with principles as principles, lulled by the thought that one day they will be applied to life, and we are in no way surprised or disturbed by the fact that, while we evolve beautiful principles, the whole of our life (i.e. the life of cultured humanity) goes in the opposite direction. A cultured European invents with equal ease a machine-gun and a new surgical apparatus. European culture started with the life of a savage, as though taking this life for a pattern and beginning to develop *all its sides*, without thinking of their moral value. The savage smashed the head of his enemy with a simple club. We have invented very complicated devices for the same purpose which are capable of smashing simultaneously hundreds and thousands of heads. Flying, about which men dreamed for thousands of years, has been achieved, and used first of all for the purposes of war.

Morality should have been the co-ordination of *all sides* of life, i.e. of the actions of man and humanity with the higher emotions and the higher attainments of the intellect. From this point of view it becomes clear why it has been said earlier that morality is a form of aesthetics. Aesthetics - the *sense* of beauty, is the *sense* of the relationship of parts to the whole, the *need* for a certain harmonious relationship. And morality is the same. Actions, thoughts and feelings are not moral when they are uncoordinated, inharmonious with the higher understanding and higher sensations accessible to man. The introduction of morality into our life would make it less paradoxical, less contradictory, more logical and, above all, more *civilized*, because now our vaunted civilization is very much compromised by the 'Dreadnought', i.e. by wars and all that is connected with them, as well as by many things in 'peace-time', such as capital punishment, prisons and so on.

Morality or *moral* aesthetics, in the sense in which it is taken here, is indispensable for us. Without it we forget too easily that the *word* has, after all, some relation to the *deed*. We are interested in a great many things, we probe into many things, but, for some reason, we completely fail to notice the lack of correspondence between our spiritual life and our life on earth. So we live in two lives: in one of them we are excessively strict with ourselves, we carefully analyse every idea before voicing an opinion about it; in the other, on the contrary, we very easily allow all kinds of compromises, very easily fail to see what we do not wish to see. And we are reconciled to this

division. It is as if we do not even find it necessary to carry out our high ideas in practice, as if we almost make a principle out of this division between the 'real' and the "spiritual". The result is all the monstrosities of modern life - all the infinite falsification of our life - falsification of the press, of art, the theatre, science, politics; falsification which stifles us like some foul morass but which we ourselves create because *we ourselves*, and no one else, are servants and vassals of this falsification. We are not conscious of the *necessity* to carry out our ideas in practice, to introduce them into *our everyday* activity, and we admit the possibility of this activity being contrary to our spiritual aspirations. In other words, we admit the possibility of it following one of the stereotyped patterns, the harm of which we recognize but for which no one of us individually holds himself responsible, because he has not created them himself. We have no *sense of personal responsibility*, no courage, not even any consciousness of the need for them. All this would have been very sad, and hopelessly sad, if the concept 'we' were in actual fact so indisputable. In reality, however, the correctness of the very term 'we' is subject to grave doubts. The enormous majority of the population of the earthly globe is actually engaged in destroying, distorting and falsifying the ideas of the minority. The majority has no ideas of its own. It is incapable of understanding the ideas of the minority and, left to itself, it is inevitably bound to distort and destroy. Imagine a zoo full of apes. A man is working in the zoo. The apes observe his movements and try to imitate him. But they can only imitate the external movements; the purpose and meaning of these movements are hidden from them. Therefore, their movements will have quite a different result. And if the apes manage to get out of the cage and get hold of the man's tools, they may destroy all the work of this man and do a lot of harm to themselves. But they will never be able to create anything. Consequently, *a man* would make a great mistake if he spoke of their 'work' and referred to them as 'we'. Creation and destruction - or rather ability to create or ability *only* to destroy - are the two main signs of the two types or two races of man.

Morality is necessary to 'man'. Only from the point of view of morality is it possible to distinguish unhesitatingly between the work of *man* and the activity of apes. At the same time, nowhere do delusions spring up more easily than in the domain of morality. Engrossed in *his own morality* and moral preachings a man forgets the *aim of moral perfection*, forgets that the aim consists in knowledge. He begins to see the aim in *morality itself*. Then there takes place an *a priori* division of emotions into good and bad, 'moral' and

'immoral'. At the same time, a correct understanding of the aim and significance of emotions is completely lost. A man is engrossed in his 'goodness'; he wants all the others to be as 'good' as himself or as the remote ideal he sets himself. The result is enjoyment of morality for the sake of morality, or a kind of moral sport - exercise of morality for morality's sake. This stops all thought. A man begins to be afraid of everything. Everywhere, in all manifestations of life he begins to see something 'immoral', threatening to cast him or other people down from the height to which they have risen or may rise. He develops a highly suspicious attitude to other people's morals. In the heat of proselytizing, wishing to spread his moral views, he begins to regard with definite enmity all that is not in accord with his morality. All this becomes 'black' in his eyes. Starting from complete freedom, he very easily convinces himself, by means of a few compromises, that it is necessary to fight against freedom. He already begins to admit a censorship of thought. A free expression of opinions opposed to his own seems to him inadmissible. All this may be done with the best intentions, but we all know very well what it leads to.

No tyranny is more fierce than the tyranny of morality. Everything is sacrificed to it. And, naturally, nothing blinds one more than such a tyranny, such a 'morality'.

And yet humanity needs morality, but of quite a different kind - a morality based on *real* data of higher knowledge. Humanity is passionately seeking it and perhaps will find it. Then, on the basis of this *new morality* a great division will take place, and the few who will be able to follow it will begin to rule the others, or will go away altogether. In any case, owing to the new morality and the forces it will bring in, contradictions of life will disappear and the biped animal, constituting the majority of mankind, will no longer be able to pose as man.

The organized forms of intellectual knowledge are: *science*, based on observation, calculation and experience, and *philosophy*, based on the speculative method of reasoning and deduction.

The organized forms of emotional knowledge are: *religion* and *art*. Religious teachings, taking on the character of 'cults' and thus departing from the original 'revelation' upon which they were founded, are entirely based on the emotional nature of man. Majestic temples, the gorgeous vestments of priests and clergymen, the pomp of religious rituals, processions, sacrifices, singing, music, dances - the aim of all these things is to incite a certain emotional state, to evoke in man

certain definite feelings. Religious myths, legends, stories of the lives of gods and saints, prophecies, apocalypses, when they lose their original purpose of serving knowledge, pursue the same aim - they all act on imagination, on feeling.

The purpose of all this is to give man a *God*, to give him *morality*, that is, to make accessible to him a definite knowledge of the hidden side of the world. Religion may deviate from its true aim, it may serve *earthly* interests and aims. But its origin lies in the search for truth and for God.

Art serves *beauty*, i.e. a particular kind of emotional knowledge. Art finds this beauty in everything and makes a man feel it and thus *know*. Art is a powerful instrument for the knowledge of the noumenal world: mysteries, one deeper and more amazing than the other, become revealed to man's vision if he holds the magic key. But the mere *thought* that this mystery is not for knowledge but for enjoyment destroys all the enchantment. As soon as art begins to enjoy the beauty already *found*, *instead of seeking new beauty*, all progress is checked, and art becomes transformed into a useless aestheticism surrounding man with a wall and preventing him from seeing further. *The search for beauty* is the aim of art, just as the search for God and *truth* is the aim of religion. Like art, religion no longer progresses when it ceases to *seek* God and truth and begins to think that it has found them. This idea is expressed in the Gospels: 'Seek . . . the kingdom of God and his righteousness. . . .' It does not say you will find, but only, seek.

Science, philosophy, religion and art are forms of knowledge. The method of science is observation, calculation, experience; the method of philosophy is speculation; the method of religion and art is moral or aesthetic *emotional* suggestion. But science, philosophy, religion and art really begin to serve *true knowledge* only when they begin to manifest intuition, i.e. the sensing and finding of some inner qualities in things. Actually one may say - and perhaps it will be most correct - that the aim of even purely intellectual scientific and philosophical systems is not at all to give men certain information, but to raise man to a height of thought and feeling where he himself can pass to the new and higher forms of knowledge, to which art and religion are closest.

Moreover, it should be borne in mind that the very division of science, philosophy, religion and art shows their incompleteness. A complete religion embraces religion, art, philosophy and science; a

complete art embraces art, philosophy, science and religion; complete science, complete philosophy will embrace religion and art. A religion contradicting science and a science contradicting religion are equally false.

CHAPTER 19

The intellectual method. Objective knowledge. The limits of objective knowledge. Possibility of expanding knowledge by the application of the psychological method. New forms of knowledge. The ideas of Plotinus. Different forms of consciousness. Sleep (potential slate of consciousness). Dreams (consciousness enclosed within itself, reflected from itself). Waking consciousness (dualistic sensation of the world). Ecstasy ('going out of oneself'). 'Turiya' (the absolute consciousness of all as of oneself). 'The drop absorbing the ocean.' 'Nirvana.'

Having established the *principle of* the possible unification of the forms of our knowledge, we must now see if this unification has been realized anywhere; how it may be realized; and whether it will be realized in an *entirely new form* or whether *one of the existing forms* will embrace all the others.

For this we shall have to return to the fundamental principles of our knowledge and compare the possible chances of development possessed by different ways. In other words, we must attempt to find out which way and which method leads one quickest of all to new knowledge.

To a certain extent we have already established this concerning the *emotional way*: the growth of emotions, their purification and liberation from the self-elements must lead to new knowledge.

But how can the intellectual way come to new forms of knowledge?

First of all, what is the new knowledge?

New knowledge is *direct perception* by inner feeling. I feel my own pain directly; new knowledge may enable me to *feel* as my own the pain of another man. Thus new knowledge is in itself an expansion of direct experience. The question is, can the expansion of objective knowledge be based on this new experience? We must examine the nature of objective knowledge.

Our objective knowledge consists of science and philosophy. *Inner experience* science has always regarded as *data*, as something which cannot be changed, but which is 'doubtful' and needs to be verified and corroborated by the objective method. Science studies the world as an objective phenomenon, and strives to study man's inner life with all its properties also as an objective phenomenon.

From another angle, simultaneously with this, there has continued the study of man's inner life, as it were, from within, but to this study no great significance was ever attached. The limits of inner knowledge, i.e. the frontiers of inner life, were regarded as strictly defined, established and unchangeable. The possibility of expansion, though based on the same inner experience, was admitted only in the case of objective knowledge.

We must see what constitutes the possibility of the expansion of objective knowledge. Is there no mistake here? Is the expansion of objective knowledge founded on a limited experience really possible, and are the possibilities of experience really limited?

In developing, science, i.e. objective knowledge, met with obstacles at every turn. Science studies *phenomena*; as soon as it tries to pass on to the study of *causes*, it is confronted by the wall of the unknown and, *for it*, the unknowable. The question is: is this unknowable absolutely unknowable or is it unknowable only for the methods of our science?

At present this is the situation: the number of unknown facts in every domain of scientific knowledge is increasing rapidly; and the unknown threatens to swallow up the known or what is accepted as known. The progress of science, especially in recent times, may be denned as a very rapid growth of the *regions of ignorance*. Of course in the past there was no less ignorance than there is now. But in the past it was not so forcibly felt - then science did not know *what it is ignorant of*. Now it knows this more and more, it realizes more and more clearly its own *conditional nature*. A little further, and in every separate branch of science that *which it does not know* will outgrow *that which it does know*.

In every department science itself begins to repudiate its first principles. A little further, and science as a whole will ask itself:

Where am I?

Positivist thinking, which set itself the task of drawing general conclusions from the knowledge gained by each separate department of science and by all of them together, will find itself obliged to draw a conclusion from that which the sciences do not know. And then the whole world will be confronted with a colossus with feet of clay, or rather without any feet at all, with a huge nebulous body suspended in mid-air.

Philosophy has seen for a long time that this colossus has no feet, but the greater pan of cultured humanity is still under the hypnosis of positivism, which sees something in the place of those feet. Soon,

however, this illusion will have to be abandoned. Mathematics, which lies at the foundation of positive knowledge, and to which exact knowledge always refers with pride as to its subject and vassal, actually denies positivism as a whole. Mathematics was included in the cycle of positivist sciences only through misunderstanding, and soon the chief weapon AGAINST POSITIVISM will be precisely -mathematics.

I call here positivism that system which asserts, in opposition to Kant, that the study of phenomena *can* bring us nearer to things in themselves, i.e. which affirms that through studying phenomena we can come to the understanding of causes. Moreover, and most important as an indication, positivism looks for causes of biological and psychological phenomena in physico-mechanical phenomena.

The usual positivist view denies the existence of the *hidden side of life*, i.e. it finds that this hidden side consists of electro-magnetic phenomena and is becoming gradually revealed to us, and that the progress of science consists in a gradual unveiling of the hidden.

'This is not known *as yet*,' says a positivist when he is shown something 'hidden', 'but it will be known. Science, proceeding on the same lines it has been following so far, will discover that too. After all, five hundred years ago people in Europe knew nothing about the existence of America; seventy years ago no one knew of the existence of bacteria; twenty-five years ago they knew nothing about radium. But America, bacteria and radium are all discovered now. In the same way, and by the same means, and only by these means, will be discovered everything that generally is to be discovered. Apparatus is being perfected, the methods, means and observations are becoming more delicate. Things which could not be even suspected a hundred years ago have now become generally known and generally understood facts. If anything can be known at all, it will become known precisely by this method.'

Thus speak adherents of the positivist view of the world, but their reasonings are based on the deepest illusion.

This assertion of positivism would be quite correct if science moved uniformly in all the directions of the unknown; if there were no sealed doors for it; if a multitude of questions, *fundamental* questions, did not remain just as obscure as in the times when no science existed at all. We see that whole vast regions are closed to science, that it has *never* penetrated them and, what is worse, has made *no step* in the direction of these regions.

There are a great many questions towards the understanding of which science has made *no movement at all*, many questions among which a modern scientist, armed with all his knowledge, is as helpless as a savage or as a four-year-old child.

Such are the questions of life and death, the problems of time and space, the mystery of consciousness, and so on, and so on.

We all know this, and all we can do is - try not to think about the existence of these questions, to forget about them. And this is what we usually do. Still, this does not do away with the questions. They continue to exist, and at any moment we may turn to them and test by means of them the steadiness and strength of our *scientific method*. And every time, at such an attempt, we see that our scientific method is of no value for these questions. By means of it we can establish the chemical composition of distant stars; photograph the human skeleton invisible to the eye, invent floating mines which can be controlled at a distance by electric waves and destroy at once hundreds and thousands of lives. But by this method we cannot say what a man sitting next to us is thinking about. No matter how much we weigh, photograph or sound the man, we shall *never* find out his thoughts, *until he himself*

tells US. BUT THIS IS A DIFFERENT METHOD ALTOGETHER.

The sphere of action of the methods of exact science is strictly limited. This sphere is - the world of direct experience accessible to man. Exact science with its method has *never* penetrated and *will never penetrate* the world which lies beyond the boundaries of the ordinary organic experience.

Expansion of objective knowledge is possible only with an expansion of direct experience. But in spite of all the growth of objective sciences, science has not made a single step in this direction, and the boundary line of experience *remains in exactly the same place*.

If science had made a single step in this direction, if we could feel or sense at least something differently, then we should be able to admit that science is progressing and might take two, three, ten or a thousand steps forward. But since it has not taken *one single step*, we are justified in thinking that it will never take one. The world beyond the experience of the five senses is closed to objective investigation, and for this there are quite definite reasons.

By no means everything that exists can be detected by one of the five senses.

In the ordinary understanding, objective existence is a definite form of existence in a very narrow sense, which is very far from exhausting the whole of existence. The mistake of positivism con-

sists in the fact that it has recognized as really existing only that which exists objectively (as it understands it) and has begun to deny *even the existence* of all the rest.

What then is objectivity?

We may define it in this way: owing to the properties of *our* perception or owing to the *conditions* under which our mind works, we *segregate a small number of facts* into a definite group. This group of facts represents the objective world and is accessible to scientific study. But this group does not by any means represent EVERYTHING EXISTING.

Extension in space and extension in time is the first condition of objective existence. But the forms of the extension of a thing in space and its existence in time are created by the subject perceiving the thing, and do not belong to the thing itself. *Matter* is first of all *three-dimensional*. Three-dimensionality is the form of our perception. *Matter of four dimensions* would mean a change in the form of our perception.

Materiality means the conditions of existence in time and space, i.e. conditions of existence under which *two identical* phenomena cannot take place at the same time and in the same place'. This is an exhaustive definition of materiality. It is clear that in the conditions known to us, two identical phenomena taking place at the same time and in the same place would constitute one phenomenon. But this is obligatory only for the conditions of existence we know, i.e. for such matter as we perceive. For the universe this is not at all obligatory. We constantly observe in practice conditions of materiality in those cases in which we have to create a sequence of phenomena in our life or are forced to make a *selection*, for our matter does not allow of more than a certain definite number of phenomena to be contained in a definite interval of time. The need for *selection* is perhaps the chief *visible* sign of materiality. Outside of matter the necessity of selection disappears, and if we can imagine a being, capable of feeling, living outside the conditions of materiality, such a being will be able to possess simultaneously things which, from our point of view, are incompatible, conflicting and mutually exclusive; he will be able to be in several places at once; to assume different aspects; to perform at the same time contradictory and mutually exclusive actions.

In speaking of matter it is necessary always to remember that matter is not a substance but merely a condition. For example, a man is blind. It is impossible to regard blindness as a substance. It is a condition of the existence of the given man. Matter is a kind of blindness.

Objective knowledge can grow indefinitely with the perfection of apparatuses and methods of observation and investigation. The only thing it cannot step over is - the limits of the three-dimensional sphere, i.e. the conditions of space and time, because it is created in those conditions, and the conditions of existence of the three-dimensional world constitute its own conditions of existence. Objectively, knowledge will be always subject to these conditions, because otherwise it would cease to exist. No apparatus, no machine will ever overcome these conditions, for if they do overcome them, by this very fact they will, first of all, eliminate themselves. Only *perpetuum mobile*, i.e. a violation of the fundamental laws of the three-dimensional world as we know it, would represent a victory over the three-dimensional world *in the three-dimensional world itself*.

However, it is necessary to remember that objective knowledge does not study facts, but only *representations of facts*.

IN ORDER THAT OBJECTIVE KNOWLEDGE SHOULD TRANSCEND THE LIMITS OF THE THREE-DIMENSIONAL SPHERE, IT IS NECESSARY THAT THE CONDITIONS OF REPRESENTATION SHOULD CHANGE.

So long as this does not take place, our objective knowledge is confined within the limits of an *infinite three-dimensional sphere*. It can advance *ad infinitum* along the *radii of that sphere*, but it will not pass over into the domain of which our three-dimensional world represents *a section*. And we know from what has gone before that if our perception were still more limited, objective knowledge would be correspondingly limited. It is impossible to convey to a dog the idea that the earth is round; to make it remember the weight of the sun and the distances between the planets. Its objective knowledge is much more *personal* than ours. And the cause of this lies in its limited mind.

Thus we see that objective knowledge depends on the properties of the mind.

Of course, there is a tremendous difference between the objective knowledge of a savage and that of Herbert Spencer. But neither the one nor the other oversteps the limits of the three-dimensional sphere, i.e. the domain of the 'conditional', the unreal. In order to get out of the three-dimensional sphere, it is necessary to expand or change the forms of perception.

Is it possible to expand perception?

The study of complex forms of cognition tells us that it is possible.

The famous Alexandrian philosopher of the third century, Plotinus, affirmed that for perfect cognition the subject and the object should be

united - that the rational agent and the thing which is being perceived should not be separated. 'For that which *sees is* itself and the thing which *is seen*.'*

Naturally one should understand here 'seeing' not in a literal sense. 'Seeing' changes with the change of the state of consciousness in which it occurs.

What forms of consciousness are there?

Indian philosophy distinguishes four states of consciousness: sleep, dreams, waking state and the state of absolute consciousness — 'Turiya'** (*The Ancient Wisdom*, Annie Besant).

G. R. S. Mead, in the preface to Taylor's translation of Plotinus, connects the terminology of Shankaracharya, master of the *Advaita-Vedāntin* school of ancient India, with the terminology of Plotinus:

The first or spiritual state was ecstasy, from ecstasy it forgot itself into deep sleep; from profound sleep it awoke out of unconsciousness, but still within itself, into the internal world of dreams, from dreaming it passed finally into the thoroughly waking state, and the outer world of sense

Ecstasy is a term used by Plotinus. It is completely identical with the term Turiya of Indian psychology.

In the so-called waking state consciousness is surrounded by things constructed by the organs of sense and the perceiving apparatus in the phenomenal world; it distinguishes the 'subjective' from the 'objective' and differentiates its own images of representation from the 'reality'. It accepts the phenomenal objective world as reality and dreams as unreality. At the same time it seems to regard as unreal the whole subjective world. Its dim sensation of the real things lying beyond that which is constructed by the organs of sense, i.e. sensations of *noumena*, consciousness identifies with dreams, i.e. with the unreal, the imaginary, the abstract, the subjective, and regards only *phenomena* as real.

Gradually, convinced by reason of the unreality of phenomena, or sensing inwardly this unreality and the reality of that which lies beyond them, we free ourselves from the mirage of phenomena and begin to understand that the whole phenomenal world is actually also

* 'On Gnostic Hypostases', *The Select Works of Plotinus*, T Taylor, ed G R S Mead, London, G Bell & Sons, 1929

** According to the interpretation of the Southern Indian school of occultism the four states of consciousness are understood in a somewhat different order. The one furthest from truth, the most illusory, is the *waking state* (taken in its ordinary sense), the second, *sleep*, is already nearer to truth, the third, *deep sleep* without dreams is contact with the truth, and the fourth, *Samadhi*, or ecstasy, is merging with the truth

subjective and that true reality lies much deeper. Then a complete revolution of all ideas of *reality* takes place in consciousness. What was considered real before, becomes unreal, and what was regarded as unreal becomes real.* Transition into the absolute state of consciousness is 'UNION WITH DIVINITY', 'SEEING GOD', 'SENSING THE KINGDOM OF HEAVEN', 'TRANS-LATION INTO NIRVANA'. All these expressions of mystical religions express the psychological fact of an expansion of consciousness, an expansion when consciousness absorbs all into itself.

C. W. Leadbeater, in an essay 'Some Notes on Higher Planes. Nirvana' (*The Theosophist*, July 1910), writes:

Sir Edwin Arnold wrote of that beatific condition that 'The dew-drop slips into the shining sea'. Those who have passed through that most marvellous of experiences know that, paradoxical as it may seem, the sensation is exactly the reverse, and that a far closer description would be that the ocean had somehow been poured into the drop! That consciousness, wide as the sea, with 'its centre everywhere and its circumference nowhere' is a great and glorious *fact*; but when a man attains it, it seems to him that *his* consciousness has widened to lake in all.

This absorption of the ocean by a drop occurs because *consciousness never disappears, i.e. it never vanishes, never becomes extinguished*. When consciousness seems to disappear, in reality it only changes its form, ceases to be analogous to ours - and so we lose the means of ascertaining its existence.

We have no exact data for thinking that it vanishes. To escape the field of our possible observation it is sufficient for it to change *just a little*.

In the objective world a merging of the drop with the ocean naturally leads to the annihilation of the drop, to its absorption by the ocean. We have never observed any other order of things in the objective world, and so we never picture it to ourselves. But in the *real*, i.e. the subjective world, another order must necessarily exist and operate. *A drop of consciousness merging with the ocean of consciousness, perceives the ocean but does not, through this, cease to be*. Therefore the ocean undoubtedly becomes absorbed by the drop.

In the 'Letters to Flaccus' of Plotinus we find a striking outline of

conceptions of the subjective and the objective are bound to change. The usual designation will be incorrect for exact understanding. On the contrary, everything phenomenal will be subjective, and the truly objective will be that which, in ordinary conditions, is considered subjective or devoid of any existence.

psychology and a theory of knowledge, based precisely on the idea of expansion of perception.

External objects present us only with appearances. Concerning them, therefore, we may be said to possess opinion rather than knowledge. The distinctions in the actual world of appearance are of import only to ordinary and practical men. Our question lies with the ideal reality that exists behind appearance. How does the mind perceive these ideas? Are they without us, and is the reason, like sensation, occupied with objects external to itself? What certainty would we then have - what assurance that our perception was infallible? The object perceived would be a something different from the mind perceiving it. We should have then an image instead of reality. It would be monstrous to believe for a moment that the mind was unable to perceive ideal truth exactly as it is, and that we had not certainty and real knowledge concerning the world of intelligence. It follows, therefore, that this region of truth is not to be investigated as a thing external to us, and so only imperfectly known. It is within us. Here the objects we contemplate and that which contemplates are identical - both are thought. The subject cannot surely know an object different from itself. The world of ideas lies within our intelligence. Truth, therefore, is not; the agreement of our apprehension of an external object with the object itself. It is the agreement of the mind with itself. Consciousness, therefore, is the sole basis of certainty. The mind is its own witness. Reason sees in itself that which is above itself as its source; and again, that which is below itself as still itself once more.

Knowledge has three degrees - opinion, science, illumination. The means or instrument of the first is sense; of the second dialectic; of the third intuition. To the last I subordinate reason. It is absolute knowledge founded on the identity of the mind knowing with the object known. There is a raying out of all orders of existence, an external emanation from the ineffable One. There is again a returning impulse, drawing all upwards and inwards towards the centre from whence all came. . . . The wise man recognizes the idea of the good within him. This he develops by withdrawals into the holy place of his own soul. He who does not understand how the soul contains the beautiful within itself, seeks to realize beauty by laborious production. His aim should rather be to concentrate and simplify, and so to expand his being; instead of going out into the manifold, to forsake it for the One, and so to float upwards towards the divine fount whose stream flows within him.

You ask, how can we know the Infinite? I answer, not by reason. It is the office of reason to distinguish and define. The Infinite, therefore, cannot be ranked among its objects. You can only apprehend the Infinite by a faculty superior to reason, by entering into a state in which you are your finite self no longer - in which the divine essence is communicated to you. This is ecstasy. It is the liberation of your mind from its finite consciousness. Like can only apprehend like; when you thus cease to be finite, you become one with the Infinite. In the reduction of your soul to its simplest self, its divine essence, you realize this union - this identity.

But this sublime condition is not of permanent duration. It is only now and then that we can enjoy this elevation above the limits of the body and

the world. I myself have realized it but three times as yet, and Porphyry hitherto not once.

All that tends to purify and elevate the mind will assist you in this attainment, and facilitate the approach and the recurrence of these happy intervals. There are, then, different roads by which this end may be reached. The love of beauty which exalts the poet; that devotion to the One and that ascent of science which makes the ambition of the philosopher, and that love and those prayers by which some devout and ardent soul tends in its moral purity towards perfection. These are the great highways conducting to that height above the actual and the particular, where we stand in the immediate presence of the Infinite, who shines out as from the depths of the soul.*

In another place in his writings Plotinus gives a still more exact definition of ecstatic knowledge, pointing to such properties of it which show us quite clearly that an infinite expansion of *subjective knowledge* is implied.

In the vision of God [says Plotinus] what sees is not our reason, but something prior and superior to our reason. ... He who thus sees does not properly see, does not distinguish or imagine *two things* (the seer and the seen). He changes, he ceases to be himself, preserves nothing of himself. Absorbed in God, he makes but one with him, like a centre of a circle coinciding with another centre!**

*'Plotinus to Flaccus', as quoted by Dr R. M. Bucke in *Cosmic Consciousness*, Philadelphia, Innes & Sons, 1905.

** W. James, *The Varieties of Religious Experience*, New York, Longmans Green, 1917.

CHAPTER 20

The sensation of infinity. The first test of a Neophyte. Intolerable sadness. Loss of everything real. What would an animal experience on becoming a man? Transition to a new logic. Our logic as based on the observation of laws of the phenomenal world. Its unsuitability for the study of the noumenal world. The need of a new logic. Analogous axioms in logic and mathematics. TWO MATHEMATICS. The mathematics of real magnitudes (infinite and variable); and mathematics of unreal imaginary magnitudes (finite and constant). Transfinite numbers -numbers lying BEYOND INFINITY. The possibility of different infinities.

There exists an idea which a man should always try to remember when he finds himself too engrossed in the sense of the reality of the *unreal* visible world in which everything has a beginning and an end. It is the idea of infinity, the fact of infinity.

In his book *A New Era of Thought*, in the chapter 'Space the Scientific Basis of Altruism and Religion', Hinton says:

When we come upon infinity in any mode of our thought, it is a sign that that mode of thought is dealing with a higher reality than it is adapted for, and in struggling to represent it, can only do so by an infinite number of terms [realities of a higher order],

And, indeed, what is infinity as an ordinary man pictures it?

It is the only reality, and at the same time it is the abyss, the bottomless pit into which our mind falls after having risen to a height where it cannot keep a foothold.

Now, let us imagine for a moment that a man *begins to sense infinity in everything*, every thought, every idea leads him to the sensation of infinity.

This is bound to happen to a man who passes to the understanding of a higher order of reality.

What will he feel then?

He is bound to feel an abyss and a bottomless pit wherever he looks. And this feeling is bound to bring with it a sense of incredible fear, terror and sadness, until this terror and sadness become transformed into the joy of feeling new reality. 'An intolerable sadness is the very first experience of the Neophyte in occultism,' says the author of *Light on the Path*.

We have previously examined the way in which a two-dimensional being might come to the understanding of the third dimension. But we have not asked ourselves what such a being would *feel* when it begins to sense the third dimension, begins to be conscious of the 'new world' around itself.

The first feeling is bound to be surprise and fear - a fear approaching terror, for before it finds the new world it must *lose the old*.

Let us imagine an animal in which flashes of *human understanding* begin to appear.

What will be its *first* sensation? The first sensation will be that its old world, *the world of the animal*, a comfortable habitual world, the world into which it was born, to which it has grown accustomed, *the only world* it represents to itself as real, is crumbling away and falling into ruins all around. Everything that before appeared real becomes false, deceptive, fantastic, unreal. The sensation of the unreality of everything around must be very strong.

Until such a being learns to perceive realities of another, a higher order, until it realizes that beyond the crumbling old world there opens up a new world, infinitely more beautiful - a long time must pass. Meanwhile the being in whom new consciousness is being born must pass from one gulf of despair to another, from one negation to another. It must repudiate *everything* around it. And only then, having repudiated everything, will the possibility of passing into a new life be his.

With the gradual loss of the old world the logic of the two-dimensional being, or what in its case took the place of logic, will suffer constant violation, and its strongest sensation will be that there is *no* logic, *no* laws of any kind.

Formerly, when it was an animal, it reasoned thus:

This is this This house is mine
That is that That house is strange
This is not that The strange house is not mine.

Thus a strange house and its own house an animal regards as *different objects* having nothing in common. And now it will suddenly understand that both the *strange* house and *its own* house are equally - houses.

How will it express this in its language of representations? In all probability it will be unable to express it at all, because it is impossible to express concepts in the language of an animal. The animal will simply confuse the sensations of the strange house and its

own house. It will begin to sense dimly some *new properties* in houses, and at the same time the properties which had made the strange house strange it will begin to sense less clearly. Simultaneously it will begin to sense *new* properties it did not know before. As a result it will necessarily feel in need of some system for the generalization of these new properties - the need of a new logic expressing the relations of the new order of things. But having no concepts, it will be unable to construe the axioms of Aristotelean logic and will express its sense of the new order in the form of a perfectly absurd proposition which, nevertheless, is much nearer truth.

This is that.

Or else let us imagine that to an animal in whom rudiments of logic find expression in the *sensations*

*This is this That is that This
is not that*

somebody tries to prove that two different objects, two houses - *its own* and *a strange one* - are the same, that they represent *the same thing*, that both are - *houses*. The animal will never credit their *sameness*. For it the two houses - *its own where it is fed*, and the strange one *where it is beaten* if it comes in, will remain *totally different*. For it they will have nothing in common. No attempt to prove that these houses are the same thing will lead to anything *until the animal senses this itself*. Then, sensing dimly the idea of the sameness of two different objects and having no concepts, the animal will express this as something *illogical* from its point of view. An articulate two-dimensional being will translate the idea - *this and that are the same object*, into the language of its own logic in the form of the formula: *This is that*. Of course, it will say that it is nonsense, that the sense of a new order of things leads to logical absurdities. But it will be unable to express its sensations *in any different way*.

We are exactly in the same position *when we, the dead, awaken* i.e. when we, men, arrive at the sensation of a different life, the understanding of higher entities.

The same fear, the same *loss of the real*, the same sensation of an all-round illogicality, the same formula: *This is that*.

To realize the *new world* we must understand the *new logicity*.

Our ordinary logic helps us to gauge only the relations existing in the

phenomenal world. A great many attempts have been made to define *what logic is*. But in its essence logic is just as undefinable as mathematics.

What is mathematics? The science of magnitudes.

What is logic? The science of concepts.

But these are not definitions, they are merely a *translation* of the name. Mathematics, or the science of magnitudes, is a system studying *quantitative* relations between things; logic or the science of concepts is a system studying *qualitative* (categorical) relations between things.

Logic is constructed on exactly the same plan as mathematics. Both logic and mathematics (at least the mathematics of 'finite' and 'constant' numbers) are deduced by us from observing the phenomena *of our* world. By means of generalizing our observations we gradually found relations which we called the fundamental laws of the world.

In logic these fundamental laws are contained in the axioms of Aristotle and Bacon.

A is A (That which was A will be A)

A is not not A (That which was not A will be not A)

Each thing is either A or not A (Each thing must be A or not A)

The logic of Aristotle and Bacon, elaborated and supplemented by their numerous followers, operates *solely with concepts*.

Logos, the word, is the subject of logic. To become the subject of logical reasoning, to be governed by the laws of logic an idea must be expressed in a word. What cannot be expressed in a word cannot enter into a logical system. Moreover, the *word* can enter a logical system, be subject to logical laws *only as a concept*.

At the same time we know perfectly well that *not everything can be expressed in words*. In our life and in our feelings there is a great deal that cannot be fitted into concepts. So it is clear that even at this moment, at the present stage of our development, by no means everything can be *logical* for us. A great many things are essentially *outside logic*. Such is the entire domain of feelings, emotions, religion. All art is a complete illogicality. And we shall see presently that *mathematics*, the most exact of all sciences, is also completely illogical.*

If we compare the logical axioms of Aristotle and Bacon with the axioms of the generally known mathematics, we shall see that they are entirely identical.

The axioms of logic * Strictly speaking, the science parallel to logic is not mathematics, but geometry.

A is A
A is not not A
Each thing is either A or not A

completely correspond to the fundamental axioms of mathematics, axioms of identity and difference.

Every magnitude is equal to itself. The part is less than the whole.

Two magnitudes, equal separately to a third, are equal to each other, etc.

This similarity between the axioms of mathematics and logic goes very deep, and this allows us to draw the conclusion that they have the same origin.

The laws of mathematics and the laws of logic are the laws of the reflection of the phenomenal world in our perception and thinking.

Just as logical axioms can operate only with concepts and refer only to concepts, so mathematical axioms can operate only with *finite* and *constant* magnitudes and refer only to them.

In relation to infinite and variable magnitudes these axioms are incorrect, just as logical axioms are incorrect even in relation to emotions, to symbols, to music and to the *hidden meaning of the word*, to say nothing of that content of ideas which cannot be put into words.

What does it mean?

It means that axioms of logic and mathematics are deduced by us from the observation of *phenomena*, i.e. the phenomenal world, and represent a certain *conditional incorrectness*, necessary for the cognition of the *unreal*, 'subjective' world - in the true meaning of the word.

It has been pointed out earlier that in fact we have *two mathematics*. One — the mathematics of *finite and constant numbers*, represents an entirely artificial construction for solving problems on the basis of conditional data. The chief of these conditional data consists in the fact that in problems of *this mathematics* there is always taken *only the 't' of the universe*, i.e. only one section of the universe which is never mixed with another section. Thus the mathematics of finite and constant magnitudes studies an *artificial universe* and is itself something specially created on the basis of our observations of phenomena and as a means of facilitating these observations. The mathematics of finite and constant numbers is unable to go *beyond phenomena*. It

deals with an imaginary world, with imaginary magnitudes. (The practical results of those applied sciences which are based on mathematical sciences need not disturb the observer, because they are merely the solutions of problems in definite artificial conditions.)

The other, *the mathematics of infinite and variable magnitude* is something entirely real, constructed on the basis of mental deductions about the *real world*.

The first refers to the world of phenomena, which is nothing else than *our incorrect perception and representation of the world*.

The second refers to the world of noumena, which is *the world as it is*.

The first is unreal and exists only in *our* consciousness, in our imagination.

The second is real and expresses the relations of the *real* world.

An example of 'real mathematics', violating the fundamental axioms of our mathematics (and logic) is the so-called *mathematics of transfinite numbers*.

Transfinite numbers, as their name implies, are numbers *beyond infinity*.

Infinity, as represented by the sign ∞ is a mathematical expression with which, as such, it is possible to carry out all operations: divide, multiply, raise to powers. It is possible to raise infinity to the power of infinity - the result will be ∞^∞ . This magnitude is an infinite number of times greater than a simple infinity. And at the same time they are equal $\infty = \infty^\infty$. Precisely this is the most remarkable thing in transfinite numbers. You can carry out with them any operation you like, and *they will change correspondingly, remaining at the same time equal*. This violates the fundamental laws of mathematics, accepted for *finite* numbers. Having changed, a finite number can no longer be equal to itself. And yet we see here that, *in changing*, a transfinite number remains equal to itself.

Moreover, transfinite numbers are entirely real. We can find examples in the real world corresponding to expressions ∞ and even ∞^∞ and ∞^∞ .

Let us take a line, any segment of a line. We know that the number of points in this line is equal to infinity, because a point has no dimensions. If our segment equals an inch, and side by side with it we imagine a segment which equals a mile, then each point in the small segment will have a corresponding point in the large segment. The number of points in the segment an inch long is infinite. The number of points in a mile is also infinite. The result is $\infty = \infty$.

Now let us imagine a square of which the given line a constitutes one side. The number of *lines* in a square is infinite. The number of points in every line is infinite. Consequently the number of points in a square equals infinity multiplied by itself an infinite number of times ∞^∞ . This magnitude is undoubtedly infinitely greater than the first ∞ . And at the same time they are equal, as all infinite magnitudes are equal, because if there is *infinity*, it is one and it cannot change.

On the square a^2 which we have obtained, let us construct a cube. This cube consists of an infinite number of squares, just as the square consists of an infinite number of lines, and the line - of an infinite number of points. Consequently the number of points in the cube a^3 equals ∞^∞ . This expression is *equal* to the expressions ∞^∞ and ∞ , which means that infinity continues to grow, *remaining at the same time unchanged*.

Thus we see in transfinite numbers that two magnitudes, each of which separately equals a third, may be not equal to each other. Altogether we see that the fundamental axioms of our mathematics *do not operate there*, are not applicable there. And we have every right to establish the law that the fundamental axioms of mathematics, cited above, are not applicable there but are valid and applicable only for *finite* numbers.

Moreover, we can say that the fundamental axioms of our mathematics are valid only for *constant* magnitudes. In other words, they require *unity of time and place*, namely, each magnitude is equal to itself *at a given moment*. But if we take a variable magnitude, and take it at different moments, it will not be equal to itself. Of course one may say that, *in changing*, it becomes *another magnitude*, that it is a given magnitude only so long as it does not change. But this is exactly what I mean.

Axioms of our mathematics are applicable only to finite and *constant* magnitudes.

So, in direct opposition to the usual view, we have to admit that mathematics of finite and constant magnitudes is unreal, i.e. it deals with unreal relations of unreal magnitudes, whereas the mathematics of infinite and *fluent* magnitudes is real, i.e. it deals with the real relations of real magnitudes.

Indeed, the greatest magnitude of the *first mathematics* has no dimension whatever, *is equal to nought* or to a point in comparison with any magnitude of the *second mathematics* ALL THE MAGNITUDES

OF WHICH, IN ALL THEIR VARIETY, ARE EQUAL AMONG THEMSELVES.

Thus here, as well as in logic, the axioms of the *new mathematics* appear as absurdities.

A magnitude can be not equal to itself.

The part can be equal to the whole or can be greater.

One of two equal magnitudes can be infinitely greater than the other. All DIFFERENT magnitudes are equal to each other.

We observe a complete analogy between the axioms of mathematics and those of logic. The logical unit - the concept - possesses all the properties of a *finite* and *constant* magnitude. The fundamental axioms of mathematics and logic are essentially the same. And they are correct in similar conditions and cease to be correct in similar conditions.

We may say without the slightest exaggeration that the fundamental axioms of logic and mathematics are correct only so long as logic and mathematics operate with *artificial, conditional* units which do not exist in nature.

The truth is that there are *no finite, constant* magnitudes in nature, just as there are *no concepts*. A finite, constant magnitude and a concept are conditional abstractions; they are not reality but, so to speak, sections of reality.

How to connect the idea of the absence of constant magnitudes with the idea of a *static universe*? At the first glance, the one contradicts the other. But in actual fact this contradiction does not exist. *Not this one*, but the greater universe is static, the world of many dimensions of which we know the eternally moving section called the three-dimensional infinite sphere. In addition, the very concepts of motion and immobility need to be reconsidered, because in the way our mind usually understands them, they do not correspond to reality.

We have already examined in detail how the idea of motion results from our sense of time, i.e. *from the imperfection of our sense of space*.

If our space-sense were more perfect, then, in relation to any given object, say to a given human body, we would perceive the whole of its life in time, from birth to death. Then within the limits of this compass it would be for us a constant magnitude. But now, at every moment of its life it is for us not a constant, but a variable magnitude. And what we call *the body* does not actually exist. It is only a section of a four-dimensional body which we never see. We must remember that all our three-dimensional world actually does not exist. It is the creation of our imperfect senses, the result of their imperfection. It is not *the world*; it is only what we see of the world. The three-

dimensional world is the four-dimensional world observed through the narrow slit of our senses. Therefore all the magnitudes we accept as such in the three-dimensional world, are not real magnitudes, but are only *artificially assumed*.

They have no real existence, just as the *present* has no real existence. This has already been said. What we call the *present* is the transition from the future into the past. But this transition has no extension. Consequently, the present does not exist. *Only* the future and the past exist.

Thus constant magnitudes in the three-dimensional world are abstractions; just as *motion* in three-dimensional world is *in actual fact* an abstraction. In the three-dimensional world there is no change, no motion. For the conception of motion we need a four-dimensional world. The three-dimensional world does not exist in reality, or it exists only during one ideal moment. In another ideal moment there is already *another* three-dimensional world. Consequently, magnitude A is no longer A the next moment, but becomes B; the next moment it is C and so on, *ad infinitum*. It is equal to itself only during one ideal moment. In other words, within the limits of one ideal moment the axioms of mathematics are valid; for the comparison of two ideal moments they are only conditional, just as Bacon's logic is conditional compared to the logic of Aristotle. *In time*, i.e. in relation to magnitudes which are variable from the point of view of the ideal moment, they are incorrect.

The idea of constancy or variability is the outcome of the incapacity of our limited mind to know a thing otherwise than in the form of its section. But if we achieve the knowledge of a thing in four dimensions, say a human body from birth to death, it will be a whole and *constant* magnitude, a section of which we call the human body *changing in time*. A moment of life, i.e. the body as we know it in the three-dimensional world, is a point on an infinite line. If we could know this body as a whole, we would know it as an *absolutely constant* magnitude with all its variety of forms, states and positions. But in that case the axioms of our mathematics would not be applicable to this constant magnitude, because it would be an *infinite* magnitude.

This infinite magnitude we cannot know. We always know *only its section*. And to this imaginary section of the universe belong our mathematics and logic.

CHAPTER 21

Necessity of abandoning our phenomenal logic for a noumenal approach. Science must recognize that only through poetry and mysticism do we approach the world of causes. Preparation through faith and love are necessary to overcome the terror of infinity. The real meaning of 'Poor in spirit'. The *Organon* of Aristotle, the *Novum Organum* of Bacon and *Tertium Organum* which, though often forgotten, existed before the others and is a key to the hidden side of life. Necessity of discarding our two-dimensional 'idols' and attempting to enumerate the properties of the *world of causes*.

Everything said about mathematical magnitudes refers also to logical concepts. *Finite* mathematical magnitudes and *logical* concepts are subject to the same laws.

We have now made it clear that laws discovered by us in three-dimensional space and operating in this space are inapplicable, incorrect and untrue in a space of a greater number of dimensions.

This is equally true in mathematics and in logic.

As soon as, instead of finite and constant magnitudes, we begin to examine infinite and variable magnitudes, we see that the fundamental axioms of our mathematics cannot refer to them.

And as soon as, instead of concepts, we begin to think in other terms, we must be prepared to meet with an enormous number of absurdities *from the point of view of existing logic*.

They would seem absurdities to us because we approach the many-dimensional world with the logic of the three-dimensional world.

It was shown earlier that for an animal, i.e. for a two-dimensional being thinking not by concepts but by representations, our logical propositions are bound to seem absurd.

The *logical* relations in the world of many dimensions appear just as absurd to us. There is no reason whatever for hoping that in the *world of causes* relations can be logical from our point of view. On the contrary, we may say that EVERYTHING LOGICAL is only phenomenal. *On the other side* there can be nothing logical from our point of view. Everything that exists *there* is bound to appear to us a *logical absurdity*, nonsense. And we must remember that we cannot orientate ourselves there *with our logic*.

The attitude of human thought in its main trends to the 'world beyond' was always entirely wrong.

The 'world beyond' of the spiritualists, in all the existing versions of it, is but a naive and primitive representation of the unknown.

In 'positivism' people have denied the world beyond altogether, because, refusing to admit the possibility of logical relations other than those formulated by Aristotle and Bacon, people denied the *very existence* of anything that appeared senseless and impossible from the point of view of these formulae. And in 'spiritualism' they attempted to build a noumenal world on the pattern of the phenomenal, i.e. against reason, in defiance of the forces of nature, they wanted at all costs to prove that the world beyond is *logical from our point of view*, that the same laws of causation operate there as in our world, and that the world beyond is nothing more than a continuation of ours.

Positivist philosophy saw the absurdity of dualistic theses, but, unable to widen the field of its activity limited by logic and the 'infinite sphere', it could not think of anything better than DENIAL.

Only mystical philosophy felt the possibility of relations other than these of the phenomenal world. But it dwelt on vague and nebulous sensations, unable to define or classify them.

Science must come to mysticism, and then to the study of forms of consciousness - and consequently of perception - other than ours. Science must throw off almost everything old and must start from a new theory of cognition, for mysticism offers a new approach.

Science cannot deny the fact that mathematics grows, widens and passes beyond the boundaries of the visible and measurable world. Whole sections of mathematics examine quantitative relations which do not exist and *never existed* in the real world of positivism, i.e. relations to which there are no corresponding realities in the visible, i.e. the three-dimensional world.

But there cannot be any mathematical relations for which there would be no corresponding realities at all. Consequently, mathematics transcends the boundaries of this world and peeps into the world of the unknown. It is a *telescope* by means of which we begin to investigate the *space of many dimensions* with its worlds. Mathematics goes in the vanguard of our thought, in the vanguard of our powers of imagination and representation. It *already* calculates relationships which we are totally incapable of imagining or even thinking about.

All this cannot be denied even from the strictly 'positivist', i.e. *positive* point of view. And, having admitted the possibility of widening the field of mathematics beyond the limits of the world

known through the senses, i.e. beyond the limits of the world *accessible* (be it only theoretically) to the organs of sense and to apparatus, science must, by this very fact, admit the expansion of the real world far beyond the limits of the 'infinite sphere' and logic. In other words it must recognize the reality of the 'world of many dimensions'.

The recognition of the reality of the world of many dimensions is an *already accomplished* transition to the understanding and the recognition of the world of the 'miraculous'. And a transition to the miraculous is impossible without admitting the *reality of new logical relations*, absurd and impossible from the point of view of our logic.

What are the laws of our logic?

They are the laws of our perception of the three-dimensional world or the laws of *our three-dimensional perception of the world*.

If we want to leave the three-dimensional world behind and advance further, we must first of all evolve some fundamental logical principles which would enable us to observe the relationships of things in the world of many dimensions and see in them a certain orderly interdependence rather than complete absurdity. If we enter there with logical principles of the three-dimensional world, they will drag us back, will not allow us to rise above the ground. We must first of all, throw off the fetters of our logic. This is the first, the great and the principal liberation towards which humanity should strive. A man who has thrown off the fetters of 'three-dimensional logic', has already passed in thought into another world. And this transition is not only possible but is being constantly accomplished. Unfortunately, we are not entirely aware of our rights to the 'other world' and often lose these rights, considering ourselves locked into this *terrestrial* world. And yet ways leading there exist. Poetry, mysticism, idealistic philosophy of all ages and peoples preserve traces of such transition. Following these traces we also can find the way. Ancient and modern thinkers have left us many keys with which we can unlock the mysterious doors, and many magical formulae before which these doors open by themselves. But we failed to understand the purpose of either the keys or the formulae; and we have lost the understanding of magical ceremonies and rituals of initiation in the Mysteries, which pursued only one aim - to help this transition in man's soul.

And so the doors have remained locked, and we even deny that there is anything behind these doors. Or, suspecting the existence of another world, we regard it as similar to ours and separate from ours, and attempt to penetrate it without realizing that the chief obstacle on

our path is our own division of the world into *this world* and the *world beyond*.

The world is one - but the means of perceiving it are different. And with imperfect means of perception it is impossible to penetrate into that which is accessible only to the perfect.

Attempts with the logic of the phenomenal world to penetrate in thought into the world beyond, the world of noumena, the world of causes, if they did not prove a complete failure or did not lead a man to the world of *waking dreams*, gave one result only. - Conscious of the new order of things man lost the sense of the reality of the old order. The visible world began to appear to him fantastic, unreal; everything vanished around him, disappeared like smoke, leaving a terrifying sensation of *illusion*. He felt in everything the abyss of infinity, and everything pouring away into this abyss.

The sensation of infinity is the first and most terrifying trial before initiation. There is nothing! The small insignificant soul feels itself suspended in an infinite void. Then even the soul itself ceases to exist. There is nothing - there is only infinity, the constant and continuous breaking up and dissolution of everything. In the mystical literature of all peoples there are references to this sensation of *void* and *darkness*.

The mysterious deity of the ancient Egyptians, mentioned in the Orphic myths* was: *'The thrice-unknown darkness in contemplation of which all knowledge is resolved into ignorance.'*

This means that, approaching the world of causes with nothing but the knowledge of the world of phenomena, with his own instrument of logic which proved futile because all the new eluded him, a man was bound to experience a terror surpassing all limits. In *the new* he felt as yet nothing but chaos, *the old* was vanishing, receding, becoming unreal. Terror and regret at the loss of the old was mingling with the fear of the new, the unknown, *terrifying in its infinity*.

At this stage a man goes through the same experience as that of an animal in becoming a man. After a momentary glimpse of the *new world* it is dragged back by life. The world it has glimpsed for a short moment seems a dream, a fantasy, a creation of its imagination. But the old world of the past is no longer the same either, it becomes narrow, there is no longer any room in it. The awakening consciousness can no longer lead the same wild and free life of a beast. It already

* Annie Besant, *The Ancient Wisdom*, Theosophical Publishing House, Adyar, 1939, Introduction.

knows something, hears some voices. And at the same time *the body* holds it. And it does not know where and how it can escape it or escape from itself.

A man on the threshold of the new world has exactly the same experience. He has heard the music of heaven, and the dull songs of the earth no longer touch or move him; or, if they do touch and move him, it is because they speak to him of heavenly sounds, of the unattainable, of the unknown. He has experienced a feeling of an extraordinary EXPANSION of consciousness, when for a moment *everything* was clear to him, and he cannot reconcile himself to the slow *earthly* working of the brain.

Moments of 'sensation of infinity' are connected with quite special emotions.

In 'theosophical' literature and in books on occultism it is often said that, passing into the 'astral' world man begins to see *new colours*, colours which are not in the solar spectrum.* This symbolism of the new colours of the 'astral sphere' conveys precisely the thought about the *new emotions* which a man begins to experience together with the sensations of an expanded consciousness - 'the ocean being absorbed by a drop'. This is the 'incredible bliss' of which mystics speak, the *heavenly light* which the saints 'see', the 'new sensations' which poets experience. Even conversational psychology connects 'ecstasy' with completely unusual *new* sensations, inaccessible and unknown to man in ordinary life.

This sensation of *light* and infinite joy is experienced in moments of expansion of consciousness (the unfolding of the *mystic lotus* of the Indian Yogi), at the moment of the sensation of infinity which produces, at the same time, the sensation of darkness and boundless terror.

What does it mean?

How to reconcile the sensation of light with the sensation of darkness, the sensation of joy with the sensation of terror? Can it be simultaneous? Does it happen simultaneously?

It does happen and it has got to be so. Mystical literature gives us examples of this. The simultaneous sensation of light and darkness, joy and terror seems to symbolize the strange duality and contradiction of human life. It can happen to a man who is very sharply divided, with one side of his nature gone far into the 'spirit' and the other side deeply sunk in 'matter', i.e. in illusion, in unreality; with too profound a faith in the reality of the unreal.

* Although it must be remembered that we see *only three* of the seven colours of the solar spectrum.

Speaking generally, the *new* world gives the sensation of light, of life, of all-pervading consciousness, of joy. . . . But to a *mind which is not prepared* the same world will give a sensation of infinite darkness and terror. Moreover, the sensation of terror must come from the *loss of everything real*, from the disappearance of *this* world.

In order not to experience the terror of the new world, it is necessary to know it beforehand, either emotionally - through *faith* and *love*, or intellectually - *by reason*.

And in order not to experience terror at the loss of the old world, one should renounce it *voluntarily* beforehand, also either through faith or reason.

It is necessary to renounce voluntarily all the beautiful bright world we live in, to admit that it is a mirage, a phantom, an unreality, deceit, illusion, *may a*. One should become reconciled to this unreality, not be afraid of it but rejoice in it. One should be stripped of everything. One should become POOR IN SPIRIT, i.e. make oneself poor by an effort of one's spirit.

The beautiful Gospel symbol expresses the deepest philosophical truth:

Blessed are the poor in spirit for theirs is the kingdom of heaven.

These words become clear only if taken in the sense of renunciation of the material world. 'Poor in spirit' does not mean *poor in the material sense*, in the everyday meaning of the word; and it certainly does not mean *poverty of the spirit*. Spiritual poverty is renunciation of matter, such 'poverty' when a man has no ground under his feet and no sky over his head.

Foxes have holes, and birds of the air have nests, But the Son of man hath not where to lay his head.

This is the kind of poverty when a man is *completely alone*, because he begins to see other people, even the most near to him, his father, his mother, not as he saw them before, but differently, and renounces them because he sees *real entities* towards which he strives, just as in renouncing the phenomenal phantasm of the world he approaches that which is truly real.

The moment of transition, the terrible moment of the *loss of the old* and the *unfolding of the new* was depicted in ancient literature in an infinite number of allegories. The purpose of the *Mysteries* was to make this transition easier. In India, in Egypt, in Greece there existed special *preparatory* rituals, sometimes only symbolical, sometimes

real, actually leading the soul to the very doors of the new world, and opening these doors at the moment of *initiation*. But external rites and ceremonies could not by themselves create initiation. The chief work had to go on *within* the soul and the mind of man.

How then can logic help man to pass to the consciousness of this new higher world?

We have seen that *mathematics* has already found a way into this higher order of things. Penetrating there, it first of all renounces its *fundamental axioms* of identity and difference.

In the world of infinite and fluid magnitudes *a magnitude can be not equal to itself; a part may be equal to the whole; and of equal magnitudes one may be infinitely greater than another.*

All this sounds like an absurdity from the point of view of the mathematics of finite and constant numbers. But the very mathematics of finite and constant numbers is a calculation of relationships among non-existent magnitudes, i.e. an absurdity. Therefore, only that which seems an absurdity from the point of view of this mathematics can be the truth.

Logic goes through the same process. It has to renounce itself, arrive at the necessity of its own annihilation - and then a new and higher logic may arise from it.

In his *Critique of Pure Reason* Kant proved the possibility of a *transcendental logic*.

Before Bacon and before Aristotle, in ancient Indian scriptures there were given formulae of that higher logic which unlocked the doors of the mysteries. But the meaning of these formulae was soon lost. They were preserved in ancient books, but only as some strange mummies of extinct thought, words without real content.

New thinkers again re-discovered these principles, expressed them in new words. But again they remained not understood, again they turned into some useless verbal ornament. But the *idea continued*. Belief was never lost in the possibility of finding and establishing the laws of the higher world. Mystical philosophy never regarded Aristotelean logic as all embracing or omnipotent. It built its systems *outside logic* or above logic, unconsciously, following the lines of thought laid down in the deepest antiquity.

Higher logic existed before *deductive* and *inductive* logic was ever formulated. Higher logic may be called *intuitive* logic, the logic of infinity, the logic of ecstasy.

This logic is not only possible, but *it exists*, and has existed from time immemorial; it was formulated many times; it entered as a key

into philosophical systems - but in some strange way it was *not recognized* as LOGIC.

The system of this logic can be deduced from a great many *philosophical* systems. I find the most exact and the fullest formulation of this logic in Plotinus, in his treatise 'On Intelligible Beauty'. I shall quote this passage in the following chapter.

I have called the system of higher logic 'TERTIUM ORGANUM', because *for us* it is the *third instrument* or the third law of thought after Aristotle and Bacon. The first was ORGANON, the second NOVUM ORGANUM. But the third existed before the first.

A man possessing this key can open the doors of the *world of causes* without fear.

The axioms which *Tertium Organum* contains cannot be formulated in our language. But if we still try to formulate them, they will produce the impression of absurdities. Taking the axioms of Aristotle as a model, we may express the principal axiom of the new logic in our poor earthly language in the following way:

A is both A and not A, or

Every thing is both A and not A, or

Every thing is All.

But in fact these formulae are completely impossible. And they are not *axioms of higher logic*; they are merely attempts to express the axioms of this logic in concepts. In reality the ideas of higher logic are *inexpressible* in concepts. And when we come up against this in-expressibility, it means that we have come into contact with the world of causes.

The logical formula *A is both A and not A* corresponds to the mathematical formula: *a magnitude can be greater or lesser than itself.*

The absurdity of both these propositions shows that they cannot refer to our world. Naturally, *absurdity* does not, by itself, indicate that a thing belongs to *noumena*. But the fact of belonging to noumena will necessarily be expressed for us in absurdity. To hope to find anything in the world of causes that would be *logical* from our point of view is just as useless as to think that the *world of things* can exist in accordance with the laws of the *world of shadows*, or stereometry in accordance with the laws of planimetry.

To master the main principles of *higher logic* means to master the

fundamentals of the understanding of higher-dimensional space or the world of the miraculous.

In order to come to a clear understanding of the relations of the many-dimensional world, we must get rid of all the 'idols' of *our world* (to use Bacon's expression); in other words we must get rid of all the obstacles to a *right* perception and thinking. And above all we must have an inner kinship with the world of the miraculous.

In order to come to the understanding of the three-dimensional world, a two-dimensional being must already *be three-dimensional*, and then get free of its 'idols', i.e. of its accepted ways of feeling and thinking, which have become axiomatic and are creating for it the illusion of two-dimensionality.

What exactly must a two-dimensional being get rid of?

First of all - and this is most important - it must get rid of the conviction that *what it sees and senses actually exists; and as a result it must become aware of the incorrectness of its representation of the world, and then of the idea that the real, new world must exist in some quite different forms, new, incomparable, incommensurable with the old.* Further, the two-dimensional being must get rid of the assurance that its *divisions* are correct. It must understand that things which appear to it totally different and separated one from another, may be a part of some *whole* incomprehensible to it, or that they may have much in common, although this may not be noticed; whereas things which seem one and indivisible, are actually infinitely complex and manifold.

The mental growth of the two-dimensional being must proceed along the line of the recognition of those common properties of objects, *unknown to it before*, which result from their similar origin or similar functions, incomprehensible on a plane.

Once the two-dimensional being has recognized the possible existence of *common* properties, formerly unknown to it, in objects which appear different, it has already come near to our understanding of the world. It has come near to our logic, has begun to understand the use of a *collective noun*, i.e. a word which is not a proper name but a common noun; in other words, a word expressing a concept.

The 'idols' of the two-dimensional being which obstruct the development of its consciousness are *proper names* which itself it gives to all surrounding objects. For it every object has its own proper name, corresponding to its own representation of that object; it has no common nouns corresponding to concepts. It is only by getting rid of these 'idols' and understanding that nouns may be both proper and common that it will be able to advance further, to develop mentally, to

approach the human understanding of the world. Otherwise, the simplest sentence, such as:

John and Peter are both men

will be an *absurdity* for a two-dimensional being. In its own representation it will take approximately the following form:

John and Peter are both John and Peter.

In other words, every *logical* proposition of ours will seem an absurdity to it. It is clear why this should be so. It has no concepts; *proper names* which make up its speech, have no plural. It is clear that the plural of our speech will seem to it an absurdity.

But where are our 'idols'? What must we get rid of in order to pass on to the understanding of relations in the many-dimensional world?

First of all we must get rid of the conviction that we see and sense that which actually exists and that the real world is similar to the world we see. In other words, we must get rid of the illusion of the material world. We must understand with *mind* all the illusory nature of the world we perceive in time and space and understand that the *real* world can have nothing in common with it. We must understand that we cannot represent to ourselves the real world in forms; and then we must understand the *conditional nature* of the axioms of our mathematics and logic relating to the unreal, phenomenal world.

In mathematics the *idea of infinity* will help us to do this. The unreality of finite magnitudes as compared with the infinite is self-evident. In logic we may base our thought on the *idea of monism*, i.e. the fundamental unity of everything existing, and consequently adopt as our starting point the impossibility of constructing any axioms consisting of contrapositions, theses and antitheses, on which our logic is based.

The logic of Aristotle and Bacon is fundamentally *dualistic*. If we are deeply imbued with the idea of monism, we shall conquer the 'idol' of this logic.

The fundamental axioms of our logic may be reduced to identity and contradiction, in the same way as mathematical axioms. At the basis of them all lies the acceptance of one general axiom, namely, that every given *something* has *something* opposite to it. Consequently, every proposition has its contra-position, every *thesis* has its *antithesis*. To the *being of* every thing is opposed the *non-being of* that thing. To the being of the world is opposed the non-being of the world. *Object* is opposed to *subject*. Objective world - to the sub-

jective world. Not 'I' is opposed to 'I'. Immobility - to motion. Variability - to constancy. Multiformity - to unity. Falsehood - to truth. Evil - to good. And, in conclusion, to every A in general is opposed *not A*.

The recognition of the reality of these divisions is necessary for the acceptance of the fundamental axioms of the logic of Aristotle and Bacon. In other words, this logic requires an absolute and incontestable acceptance of the idea of the *duality of the world* - dualism. The recognition of the *unreality* of these divisions and of the unity of all opposites is necessary for the beginning of understanding of *higher logic*.

In the very beginning of this book the existence of the WORLD and of INNER LIFE was 'admitted', in other words, the reality of a dual division of everything existing, because all other contrapositions are derived from this contraposition. *Duality* is the condition of *our* perception of the phenomenal (three-dimensional) world; it is the *instrument* of our perception of phenomena. But when we come to the perception of the noumenal world (or the world of many dimensions), this duality begins to stand in our way, to become an obstacle to knowledge.

Dualism is the chief 'idol' we have to get rid of.

In order to understand the relations of things in three dimensions and in our logic, a two-dimensional being must renounce the 'idol' of the *absolute uniqueness* of objects which requires it to call things only by their proper names.

We, in order to understand the world of many dimensions, must renounce the *idol of duality*.

But an application of monism to practical thinking comes up against the insurmountable obstacle of our language. Our language is incapable of expressing the *unity of opposites*, just as it is incapable of expressing *spatially* the relation of cause and effect. Consequently, we should be prepared to find that all attempts to express *super-logical* relations in our language will appear absurd, and actually will only *hint* at what we wish to convey.

Thus the formula:

A is both A and not A or

Everything is both A and not A

representing the fundamental axiom of higher logic, as expressed in our language of concepts, sounds an absurdity from the point of view of our ordinary logic, and is *essentially untrue*.

We must be prepared for the fact that *it is impossible* to express superlogical relations in our language.

The formula 'A is both A and not A' is untrue because in the world of causes the very contraposition of 'A' and 'not A' does not exist. But we cannot express their real relation. It would be more correct to say,

A is all

But this also would be untrue, because A is not only *all*, but also *any* part of *all*, and at the same time *a given* part

This is exactly what our language cannot express. And it is exactly to this that we must train and accustom our thought.

We must become accustomed to the thought that separateness and combination are not opposites in the real world, but exist together and at the same time, without contradicting each other. We must realize that in the real world the same thing can be both a part and the whole, i.e. that the *whole*, without changing, can be its own part. We must understand in general that there are no contrapositions and that *each thing* is a certain *archetype of the all*.

Having begun to understand this we shall begin to grasp separate ideas concerning the essence of the 'noumenal world' or the *world of many dimensions* in which we actually live.

In such a case the *higher logic*, even with the imperfect formulae - crude as they may appear in our language of concepts - represents a powerful instrument of cognition of the world, the only means of preserving us from illusions.

The application of this instrument of thought gives the key to the mysteries of nature, to *the world as it is*.

Let us try to enumerate the properties of the WORLD OF CAUSES which may be derived from everything said so far.

It is first of all necessary to emphasize that it is impossible to express in words the properties of the world of causes. Every thought which is *expressed* about them *will be untrue*. It can be said about the real world that (in relation to it) 'a *thought expressed in words, is a lie*'. One can speak about it only conditionally, approximately, by hints, by symbols. And, *if anything said about it is understood literally*, it will become an absurdity. Generally speaking, *everything expressed in words* about the world of causes may seem absurd and *is actually already a distortion*. Truth cannot be expressed. The most one can do is to hint at it, to give an impetus to the thought. But everyone must find truth for himself, by himself. 'Someone else's' truth is worse than a lie, because it is - *two lies*. This also explains why truth can

only be expressed in the form of a paradox, or *even in* the form of a lie. To speak of truth *without* lies we must know some other language. Our language is not suitable.

What then can we say in our language about the world of many dimensions, the world of noumena or the world of causes?

1 In this world 'TIME' must exist spatially, i.e. *time events* must exist and not take place. In other words, they must exist both before and after their accomplishment and lie, as it were, on the same plane. Effects must exist simultaneously with causes. What we call the *law of causation* cannot exist there, because the necessary condition for it is — time. There can be nothing there measurable by years, days and hours. There can be no before, now and after. *Moments* of different epochs, divided by long stretches of time, exist simultaneously and may be adjacent. At the same time all the *possibilities* of a given moment, even those opposed to one another, together with all their results *ad infinitum*, must become *realized* simultaneously with the given moment. But the *length of the moment* may be different on different planes.

2 There is nothing there measurable by our measures, nothing *commensurable* with our solids, nothing that is *more* or *less* than our solids. There is nothing lying to the right or the left, above or below our solids. Nothing *resembling* our solids, lines or figures. Yet, at the same time, all this may be. Different *points* of our space divided for us by long distances, must be adjacent there. 'Proximity' or 'distance' are determined there by inner 'affinity' or 'divergence', by sympathy or antipathy, i.e. by properties which seem to us subjective.

3 There is no matter there, nor motion. There is nothing that may be weighed or photographed, or expressed in formulae of physical energy. There is nothing that has *form*, *colour* or *smell*. Nothing possessing the qualities of physical bodies. At the same time, with the understanding of certain laws, the properties of the world of causes may be studied in the categories which have been enumerated.

4 There is nothing dead or unconscious there. Everything lives, everything breathes, everything thinks, everything feels, everything is conscious and everything speaks.

5 Axioms of our mathematics cannot be applied in that world, because there is nothing *finite* there. Everything there is infinite and, from our point of view, *variable*.

6 Laws of our logic cannot operate there. From the point of view of our logic that world is *outside logic*. It is the domain the laws of which are expressed in TERTIUM ORGANUM.

7 The *multiplicity of our* world cannot exist there. *Everything is*

the whole. And every separate speck of dust, let alone every separate life and every conscious being, lives one life with the whole and includes *all the whole* in itself.

8 In that world there can be none of the *duality* of our world. *Being* there is not opposed to *non-being*. *Life* is not opposed to *death*. On the contrary, the one includes the other. Unity and multiplicity, motion and immobility; oneness and divisibility, good and evil, truth and falsehood - all these divisions are impossible there. *Everything subjective is objective, and everything objective is subjective*. That world is the world of the *unity of opposites*.

9 The sense of the reality of that world must be accompanied by a sense of the *unreality* of this world. At the same time no difference between the real and the unreal can exist there, just as there cannot be any difference between the subjective and the objective.

10 *That world* and *our world* are not two different worlds. The world is one. That which we call *our world* is only *our incorrect representation of the world*, the world seen through a narrow slit. We begin to sense *that world* as *the miraculous*, i.e. as something opposed to the reality of *this world*. At the same time *this world*, the earthly world, begins to appear unreal.

11 But everything said so far will not define our relation to that world, so long as we do not realize that even in comprehending it we will not embrace it in its entirety, i.e. in all the variety of relations existing within it, but will think of it only in one or another aspect.

12 What has been said about the world of causes refers also to the *All*. But between the world and the *All* there may be many transitional stages.

CHAPTER 22

Theosophy of Max Muller Ancient India Philosophy of the Vedanta Tat tvam asi Perception by expanded consciousness as a reality Mysticism of different ages and peoples Similarity of experiences Tertium Organum as a key to mysticism Signs of the noumenal world Treatise of Plotinus 'On Intelligible Beauty' as a system of higher logic which is not understood Illumination of Jacob Boehme 'A harp of many strings, of which each string is a separate instrument, while the whole is only one harp' Mysticism of the Philokalia, St Avva Dorotheus and others Clement of Alexandria Lao-Tzu and Chuang-Tzu Light on the Path and The Voice of the Silence Mohammedan mystics Poetry of the Sufis Mystical states under narcotics The Anaesthetic Revelation Professor James's experiments Dostoyevsky on 'time' (The Idiot) Influence of nature on the soul of man

It would have been very interesting and highly important to make an historical survey of the development of ideas and systems based on higher logic, or derived from it. But it is extremely difficult, almost impossible, to do this, because, after all, we know nothing about the time of origin, the methods of transmission or ways of handing down of ideas of ancient philosophical systems and religious teachings There are a great many guesses and suppositions concerning the ways of handing down of ideas Many of these guesses and suppositions were considered beyond doubt, until new suppositions arose to refute them. Opinions of investigators are very divergent about many questions and, generally, it would be extremely difficult, or even impossible, to find one's way in this chaos, if one were to rely only upon the material accessible to logical investigation

I shall not dwell at all on the question of the *handing down of ideas*, either from historical or from any other point of view

Moreover, my survey of systems referring to the world of causes does not pretend to be complete It is not a 'history of thought', but merely some examples of different trends of thought which have led to similar results.

In his book *Theosophy or Psychological Religion* the well-known scholar Max Muller gives a very interesting analysis of mystical

religions and philosophical systems akin to them. He pays special attention to India and its teachings.

What we study nowhere but in India is the all-absorbing influence which religion and philosophy may exercise on the human mind. So far as we can judge, a large class of people in India, not only the priestly class, but the nobility also, not only men but women also, never looked upon their life on earth as something real. What was real to them was the invisible, the life to come. What formed the themes of their conversations, what formed the subject of their meditations, was the real that alone lent some kind of reality to this unreal phenomenal world. Whoever was supposed to have caught a new ray of truth was visited by young and old, was honoured by princes and kings, nay, was looked upon as holding a position far above that of kings and princes. That is the side of the life of ancient India which deserves our study, because there has been nothing like it in the whole world, not even in Greece or in Palestine. . . .

I know quite well [says Müller] that there can never be a whole nation of philosophers or metaphysical dreamers . . . and we must never forget that, all through history, it is the few, not the many, who impress their character on a nation, and have a right to represent it, as a whole. What do we know of Greece at the time of the Ionian and Eleatic philosophers, except the utterances of Seven Sages? What do we know of the Jews at the time of Moses, except the traditions preserved in the Laws and the Prophets? It is the prophets, the poets, the lawgivers and teachers, however small their number, who speak in the name of the people, and who alone stand out to represent the nondescript multitude behind them, to speak their thoughts and to express their sentiments. . . .

Real Indian philosophy, even in that embryonic form in which we find it in the 'Upanishads' stands completely by itself. ... If we ask what was the highest purpose of the teaching of the 'Upanishads' we can state it in three words, as it has been stated by the greatest Vedânta* teachers themselves, namely *Tat tvam asi*. This means *Thou art that*. *That* stands for what... is known to us under different names in different systems of ancient philosophy. It is Zeus or the *Eis Theos* or *to on* in Greece; it is what Plato meant by the *Eternal Idea*, what agnostics call the *Unknowable*, what I call the *Infinite in Nature*. This is what in India is called *Brahman*. . . the being behind all beings, the power that emits the universe, sustains it and draws it back again to itself. The *Thou* is ... the *Infinite in Man* . . . the Soul, the Self, the being behind every human *Ego*, free from all bodily fetters, free from passions, free from all attachments [Âtman]. The expression *Thou art That* means: *Thine* Âtman, thy soul, thy self is the Brahman, . . . or in other words, the subject and object of being and all knowing are one and the same.

This is the gist of what I call *Psychological Religion, or Theosophy*, the highest summit of thought which the human mind has reached, which has found different expressions in different religions and philosophies, but nowhere such a clear and powerful realization as in the ancient 'Upanishads' of India.

* Vedanta is the *end of the Vedas*, the synopsis and commentaries to the Vedas.

For as long as the individual soul does not free itself from Nescience, or a belief in duality, it takes something else for itself. True knowledge of the Self, or true self-knowledge, expresses itself in the words, 'Thou art That' or 'I am Brahman', the nature of Brahman being unchangeable eternal cognition. Until that stage has been reached, the individual soul is fettered by the body, by the organs of sense, nay even by the mind and its various functions.

The Self, says the Vedanta philosopher, cannot be different from Brahman, because Brahman comprehends *all* reality, and nothing that really is can therefore be different from Brahman. Secondly, the individual self cannot be conceived as a modification of Brahman, because Brahman by itself cannot be changed, whether by itself, because it is one and perfect in itself, or by anything outside it [because nothing exists outside it]. Here we see the Vedântist moving in exactly the same stratum of thought in which the Eleatic philosophers moved in Greece. 'If there is one Infinite,' they said, 'there cannot be another, for the other would limit the one, and thus render it finite.' Or, as applied to God, the Eleatics argued, 'If God is to be the mightiest and the best, he must be one, for if there were two or more, he would not be the mightiest and best.' The Eleatics continued their monistic argument by showing that this One Infinite Being cannot be divided, so that anything could be called a portion of it, because there is no power that could separate anything from it. Nay, it cannot even have parts, for, as it has no beginning and no end, it can have no parts, for a part has a beginning and an end.

These Eleatic ideas - namely, that there is and there can be only One Absolute Being, infinite, unchangeable, without a second, without parts and passions - are the same ideas which underlie the 'Upanishads' and have been fully worked out in the Vedânta-Sutras.

In most of the religions of the ancient world [says Müller] the relation between the soul and God has been represented as a return of the soul to God. A yearning for God, a kind of divine home-sickness, finds expression in most religions. But the road that is to lead us home, and the reception which the soul may expect in the Father's house, have been represented in very different ways, in different countries and different languages. . . .

According to some religious teachers, a return of the soul to God is possible after death only. . . .

According to other religious teachers, the final beatitude of the soul can be achieved even in this life. . . . That beatitude . . . requires knowledge only, knowledge of the necessary unity of what is divine in man with what is divine in God. The Brahmins call it self-knowledge, that is to say, the knowledge that our true self, if it is anything, can only be that Self which is All in All, and beside which there is nothing else. Sometimes this conception of the intimate relation between the human and the divine natures comes in suddenly, as the result of an unexplained intuition or *self-recollection*. Sometimes, however, it seems as if the force of logic had driven the human mind to the same result. If God had once been recognized as the Infinite in nature, and the soul as the Infinite in man, it seemed to follow that there could not be two Infinities. The Eleatics had clearly passed through a similar phase of thought in their own philosophy.

'If there is an Infinite,' they said, 'it is one, for if there were two, they could not be infinite, but would be finite one towards the other. But that which exists is infinite, and there cannot be more such. Therefore that which exists is one.'

Nothing can be more decided than Eleatic Monism, and with it the admission of a soul, the Infinite in man, as different from God, the Infinite in nature, would have been inconceivable.

In India. . . . the conclusion was. . . . that these two. *Brahman* and *Atman* [the spirit] were in their nature one.

The early Christians, also, at least those who had been brought up in the schools of Neo-platonist philosophy, had a clear perception that, if the soul is infinite and immortal in its nature, it cannot be anything beside God or by the side of God, but that it must be God and in God. St. Paul gave but his own bold expression to the same faith or knowledge, when he uttered the words which have startled so many theologians: '*In Him we live and move and have our being.*' If anyone else had uttered these words, they would at once have been condemned as pantheism. No doubt they are pantheism, and yet they express the very key-note of Christianity. The divine sonship of man is only a metaphorical expression, but it was meant originally to embody the same idea. . . . And when the question was asked how the consciousness of this divine sonship could ever have been lost, the answer given by Christianity was, *by sin*, the answer given by the 'Upanishads' was, *by avidyā* nescience. This marks the similarity, and at the same time the characteristic difference between these two religions. The question how nescience laid hold of the human soul, and made it imagine that it could live or move or have a true being anywhere but in Brahman, remains as unanswerable in Hindu philosophy as in Christianity the question how sin first came into the world.

Both philosophies, that of the East and that of the West, start from a common point, namely from the conviction that our ordinary knowledge is uncertain, if not altogether wrong. This revolt of the human mind against itself is the first step in all philosophy.

In our own philosophical language we might express the same question by asking, how did the real become phenomenal and how can the phenomenal become real again, or, in other words, how was the infinite changed into the finite, how was the eternal changed into the temporal, and how can the temporal regain its eternal nature, or, to put it into more familiar language, how was this world created, and how can it be uncreated again.

Nescience or *avidyā* is the cause of phenomenal semblance. . . . In the 'Upanishads' the meaning of *Brahman* changes. Sometimes he is almost an objective God, existing separately from the world. Then we see] *Brahman* the essence of all things, and the soul, knowing that it is no longer separated from that essence, learns the highest lesson of the whole Vedanta doctrine, *tat tvam asi. Thou art That*, that is to say, 'Thou who for a time didst seem to be something *by thyself*, art that, art really nothing apart from the divine essence' To know Brahman is to be Brahman.

Almost in the same words as the Eleatic philosophers and the German mystics of the fourteenth century, the Vedantist argues that it would be

self-contradictory to admit that there could be anything besides the Infinite or Brahman, which is All in All, and that therefore the soul also cannot be anything different from it, can never claim a separate and independent existence.

Secondly, as Brahman has to be conceived as perfect, and therefore as unchangeable, the soul cannot be conceived as a real modification or deterioration of Brahman.

Thirdly, as Brahman has neither beginning nor end, neither can it have any parts, therefore the soul cannot be a part of Brahman, but the whole of Brahman must be present in every individual soul. This is the same as the teaching of Plotinus, who held with equal consistency that the True Being is totally present in every part of the universe. . . .

The Vedanta philosophy rests on the fundamental conviction. . . . that the Soul and the Absolute Being or Brahman, are one in their essence.

The fundamental principle of the Vedanta philosophy is that in reality there exists and can exist nothing but Brahman, that Brahman is everything.

In India, as anywhere else, man imagines at first that he, in his individual, bodily and spiritual character, is something that exists, and that all the objects of the outer world also exist, as objects. Idealistic philosophy has swept away this world-old prejudice more thoroughly in India than anywhere else.

Nescience [creating the division between the individual soul and Brahman] can be removed by science or knowledge only, and this knowledge or *vidya* is imparted by the Vedanta, which shows that all our ordinary knowledge is simply the result of ignorance or nescience, is uncertain, deceitful and perishable, or as we should say, is phenomenal, relative, and conditioned. The true knowledge, or complete insight, cannot be gained by sensuous perception, nor by inference. . . . According to the orthodox Vedantist, *Sruti* alone, or what is called revelation, can impart that knowledge and remove that nescience which is innate in human nature.

Of the Higher Brahman nothing can be predicated but that it is, and that through our nescience, it appears to be this or that.

When a great Indian Sage was asked to describe Brahman, he was simply silent - that was his answer.

When it is said that Brahman is, that means at the same time that Brahman is not, that is to say, that Brahman is nothing of what is supposed to exist in our sensuous perceptions.

Whatever we may think of this philosophy [says Müller], we cannot deny its metaphysical boldness and its logical consistency. If Brahman is All in All, the One without a second, nothing can be said to exist that is not Brahman. There is no room for anything outside the Infinite and the Universal, nor is there room for two Infinities, for the Infinite in nature and the Infinite in man. There is and there can be one Infinite, one Brahman only. This is the beginning and the end of the Vedanta. . .

What has often been quoted as the shortest summary of the Vedanta in a couple of lines, represents the Vedanta of *Sankara* [a commentator and interpreter of Vedanta]

*'Brahma is true, the world is false, The soul is
Brahma and is nothing else.'*

This is really a very perfect summary. It means: What truly and really exists is Brahman, the One Absolute Being; the world is false, or rather is not what it seems to be; that is, everything that is presented to us by the senses is phenomenal and relative, and can be nothing else. The soul again, or rather every man's soul... is in reality nothing but Brahman.

[In relation to the question of the origin of the world, two famous commentators of the Vedânta,] *Sankara* and *Râmânuga* differ, *Râmânuga* holding the theory of evolution, *Sankara* the theory of illusion. . . .

It is very important to observe that the Vedântist does not go as far as certain Buddhist philosophers who look upon the phenomenal world as simply *nothing*. No, their world is real, only it is not what it seems to be. *Sankara* claims for the phenomenal world a reality sufficient for all practical purposes, sufficient to determine our practical life, our moral obligations. . . .

There is a veil. But the Vedânta-philosophy teaches us that the eternal light behind it can always be perceived more or less darkly or more or less clearly, through philosophical knowledge. It can be perceived because in reality it is always there. . . .

It may seem strange to find the results of the philosophy of Kant and his followers thus anticipated under varying expressions in the 'Upanishads' and in the Vedânta-philosophy of ancient India.

In the chapters on the 'Logos' and on 'Christian Theosophy' Max Müller says that RELIGION is a bridge between the Visible and the Invisible, between the Finite and the Infinite.

It may be truly said that the founders of the religions of the world have all been bridge-builders. As soon as the existence of the Beyond, of a Heaven above the earth, of Powers above us and beneath us had been recognized, a great gulf seemed to be fixed between what was called by various names, the earthly and the heavenly, the material and the spiritual, the phenomenal and noumenal, or best of all, the visible and invisible world, and it was the chief object of religion to unite these two worlds again, whether by the arches of hope and fear, or by the iron chains of logical syllogisms.*

The idea of the 'Logos' represented precisely this bridge. It assumed the most varied forms, expressing the *first divine thought*, and then became personified and transformed into the *Son of God*, incarnated on earth. Moreover, this idea gathered round it the mythological elements of ancient religions.

Among modern thinkers, the well-known psychologist Professor

* F. Max Müller, *Theosophy or Psychological Religion*, New York, Longmans Green, 1899.

William James is closest of all to the ideas of Max Müller's *Theosophy*. In the last chapter of his book, *The Varieties of Religious Experience*, Professor James says:

The warring gods and formulas of the various religions do indeed cancel each other, but there is a certain uniform deliverance in which religions all appear to meet — [this is the LIBERATION OF THE SOUL]. Man becomes conscious that his higher part is conterminous and continuous with a MORE of the same quality which is operative in the universe outside of him, and which he can keep in working touch with, and in a fashion get on board of and save himself when all his lower being has gone to pieces in the wreck. . . .

What is the objective 'truth' of the content of religious experiences? ... Is such a 'more' merely our own notion, or does it really exist? If so, in what shape does it exist? . . . And in what form should we conceive of that 'union' with it of which religious geniuses are so convinced?

It is in answering these questions that the various theologies perform their theoretical work, and that their divergencies most come to light. They all agree that the 'more' really exists; though some of them hold it to exist in the shape of a personal god or gods, while others are satisfied to conceive it as a stream of ideal tendency. ... It is when they treat of the experience of 'union' with it that their speculative differences appear most clearly. Over this point pantheism and theism, nature and second birth, works and grace and karma, immortality and reincarnation . . . carry on inveterate disputes.

I held out the notion [says Professor James] that an impartial science of religions might sift out from the midst of their discrepancies a common body of doctrine which she might also formulate in terms to which physical science need not object. This, I said, she [the science of religions] might adopt as her own reconciling hypothesis, and recommend it for general belief. . . .

Let me then propose, as an hypothesis, that whatever it may be on its *farther* side, the 'more' with which in religious experience we feel ourselves connected is on its *hither* side the subconscious continuation of our conscious life. . . .

The conscious person is continuous with a wider self. . . . The further limits of our being plunge, it seems to me, into an altogether other dimension of existence from the sensible and merely 'understandable' world. Name it the mystical region, or the supernatural region, whichever you choose ... we belong to it in a more intimate sense than that in which we belong to the visible world, for we belong in the most intimate sense wherever our ideals belong. . . . [The communion with this unseen world is a real process with real results. All the roots of religious life and its centre we must seek in mystical states of consciousness.]*

* William James, *The Varieties of Religious Experience*, New York, Longmans Green, 1917.

What then is mysticism?

Returning to the terminology established in the preceding chapters, we may say that mystical states of consciousness are connected with *cognition under conditions of expanded consciousness*.

Until quite recent times scientific psychology refused to recognize the reality of mystical experience and considered all mystical states to be *pathological*, unhealthy conditions of ordinary consciousness. A great many positivist psychologists still hold to this opinion, mixing together in one lump real mystical states, pseudo-mystical perversions of the ordinary state, purely psychopathic states and more or less conscious deceit.

Naturally, this does not assist a right understanding of the question. Therefore, before proceeding further, we must establish the means by which we can single out real mystical states.

Professor James gives certain criteria for distinguishing mystical states: inexpressibility in words, intuitiveness, involuntary quality and so on. But he points out himself that all these characteristics belong also to *ordinary emotional states*. And he does not define exactly what constitutes the difference between mystical states and emotional states which are actually very close to them in their character.

If we regard mystical states as cognition by expanded consciousness, we can advance quite definite criteria for discerning them and picking them out of the general mass of psychological experience.

1 Mystical states give *knowledge* WHICH NOTHING ELSE CAN GIVE.

2 Mystical states give knowledge of the *real world* with all its attributes.

3 The mystical states of men belonging to different ages and different peoples show astonishing similarity, and at times complete identity.

4 The results of mystical experience are *totally illogical* from our ordinary point of view. They are *super-logical*, i.e. TERTIUM ORGANUM, WHICH IS PRECISELY THE KEY TO MYSTICAL EXPERIENCE, is fully applicable to them.

The latter is especially important - the *illogicality* of the results of mystical experience made science repudiate them. Now we have established that *illogically* (from our point of view) is the condition necessary for knowing the truth or the real world. This does not mean that everything illogical is true or real, but it certainly means that everything true and real is, from our point of view, *illogical*.

We have established the fact that with our logic it is impossible to

approach truth, and we have also established the possibility of a new instrument of thought which helps to penetrate into regions hitherto inaccessible.

Awareness of the need to have such an instrument of thought undoubtedly existed very long ago, for what is the formula *Tat tvam asi* if not the FUNDAMENTAL AXIOM OF HIGHER LOGIC?

Thou are That means: *thou are both thou and not thou* and corresponds to the super-logical formula - *A is both A and not A*.

If we examine ancient scriptures from this point of view, we shall understand that their authors were looking for a *new logic*, and were not satisfied with the *logic of things* of the phenomenal world. Then we shall understand the apparent *illogicality* of ancient philosophical systems, which seemed to build for themselves an *ideal* world in place of the existing one. It is precisely in these constructions of an ideal world that systems of *higher logic* are often concealed.

One of such *not understood* attempts to construe a system of higher logic, to give an exact instrument of thought penetrating beyond the limits of the visible world, is the treatise of Plotinus 'On Intelligible Beauty'.

Describing HEAVEN and the GODS Plotinus says:

All the gods are venerable and beautiful, and their beauty is immense. What else however is it but intellect through which they are such? and because intellect energizes in them in so great a degree as to render them visible [by its light?] For it is not because their bodies are beautiful. For those gods that have bodies, do not through this derive their subsistence as gods; but these also are gods through intellect. For they are not at one time wise, and at another destitute of wisdom; but they are always wise, in an impassive, stable, and pure intellect. They likewise know all things [by providence] not human concerns but their own, which are divine, and such as intellect sees. . . . For all things there are heaven, and there the earth is heaven, as also are the sea, animals, plants and men. . . . The gods likewise that it contains do not think men undeserving of their regard, or anything else that is there [because everything there is divine]. And they occupy and pervade without ceasing the whole of that [blissful] region. For the life which is there is unattended with labour, and truth [as Plato says in the 'Phaedrus'] is their generator, and nutriment, their essence and nurse. They likewise see all things, not those with which generation, but those with which essence is present. And they perceive themselves in others. For all things there are diaphanous; and nothing is dark and resisting, but every thing is apparent to everyone internally and throughout. For light everywhere meets with light; *since every thing contains all things in itself, and again sees all things in another. So that all things are everywhere, and all is all. Each thing likewise is every thing.* And the splendour there is infinite. For every thing there is great, since even that which is small is

great. *The sun too which is there is all the stars: and again each star is the sun and all the stars. In each, however, a different property predominates, but at the same time all things are visible in each.* Motion likewise there is pure; for the motion is not confounded by the mover different from it. Permanency also suffers no change of its nature, because it is not mingled with the unstable. And the beautiful there is beautiful, because it does not subsist in beauty (as in a subject). Each thing too is there established, not as in a foreign land, but the seat of each thing is that which each thing is. . . . Nor is the thing itself different from the place in which it subsists. For the subject of it is intellect, and it is itself intellect. . . . *But there each part always proceeds from the whole, and is at the same time each part and the whole. For it appears indeed as a party; but by him whose sight is acute, it will be seen as a whole.* . . . There is likewise no weariness of the vision which is there, nor any plenitude of perception which can bring intuition to an end. For neither was there any vacuity, which when filled might cause the visive energy to cease; nor is this one thing, but that another, so as to occasion a part of one thing not to be amicable with that of another.

And that [the knowledge] which is there insatiable is so, because its plenitude never causes it to despise that by which it is filled. For by seeing it more abundantly sees, and perceiving both itself and the objects of its perception to be infinite, it follows its own nature [in unceasing contemplation]. . . . And the life there is wisdom; a wisdom not obtained by a reasoning process, because the whole of it always was, and is not in any respect deficient, so as to be in want of investigation. But it is the first wisdom, and is not derived from another.*

Surprisingly akin to Plotinus is Jacob Boehme, who was an ordinary shoemaker in the German town of Goerlitz at the end of the sixteenth and the beginning of the seventeenth century, and who left a whole series of remarkable writings in which he described the knowledge that came to him in moments of illumination.

His first 'illumination' occurred in 1600 when he was twenty-five.**

Sitting one day in his room his eye fell upon a burnished pewter dish, which reflected the sunshine with such marvellous splendour that he fell into an inward ecstasy, and it seemed to him as if he could now look into the principles and deepest foundation of things. He believed that it was only a fancy, and in order to banish it from his mind he went out upon the green. But here he remarked that he gazed into the very heart of things, the very herbs and grass, and that actual nature harmonized with what he had inwardly seen. He said nothing of this to anyone, but praised and thanked God in silence. . . .

Of this first illumination Hartmann [Boehme's biographer] says that by it or from it: 'He learned to know the innermost foundation of nature, and acquired the capacity to see henceforth with the eyes of the soul into

* *Select Works of Plotinus*, trs. Thomas Taylor, ed. G. R. S. Mead, London, G. Bell & Sons, 1929.

** The ensuing quotation is from Dr R. M. Bucke's book *Cosmic Consciousness*, Philadelphia, Innes & Sons, 1905, reprinted New York, Dutton, 1969.

the heart of all things, a faculty which remained with him even in his normal condition. . . .

'About the year 1600 ... he was again surrounded by the divine light and replenished with the heavenly knowledge; inasmuch as going abroad in the fields to a green before Neys Gate, at Görlitz, he there sat down and, viewing the herbs and grass of the field in his inward light, he saw into their essences, use and properties, which were discovered to him by their lineaments, figures and signatures. In like manner he beheld the whole creation, and from that foundation of revelation he afterwards wrote his book, *De Signatura Rerum*. In the unfolding of those mysteries before his understanding he had a great measure of joy, yet returned home and took care of his family and lived in great peace and silence, scarce intimating to any these wonderful things that had befallen him, till in the year 1610, being again *taken into the light*, lest the mysteries revealed to him should pass through him as a stream, and rather for a memorial than intending any publication, he wrote his first book, called *Aurora, or the Morning Redness*.

'The first illumination, in 1600, was not complete. . . . Ten years later (1610) he had another remarkable inward experience. What he had previously seen only chaotically, fragmentarily, and in isolated glimpses, he now beheld as a coherent whole and in more definite outlines. . . .

'[When] his third illumination took place . . . that which in former visions had appeared to him chaotic and multifarious was now recognized by him as unity, *like a harp of many strings, of which each string is a separate instrument, while the whole is only one harp** He now recognized the divine order of nature, and how from the trunk of the tree of life sprung different branches, bearing manifold leaves and flowers and fruits, and he became impressed with the necessity of writing down what he saw and preserving the record.' . . .

He himself speaks of this final and complete illumination as follows:

'The gate was opened to me that in one quarter of an hour I saw and knew more than if I had been many years together at a university, at which I exceedingly admired and thereupon turned my praise to God for it. For I saw and knew the being of all beings, the byss and abyss and the eternal generation of the Holy Trinity, the descent and original of the world and of all creatures through divine wisdom. . . . And I saw and knew the whole working essence, in the evil and the good and the original and the existence of each of them; and likewise how the fruitful-bearing-womb of eternity brought forth. So that I did not only greatly wonder at it but did also exceedingly rejoice.'

Describing his 'illuminations', Boehme says in one of his writings:

Suddenly . . . my spirit did break through . . . even to the innermost birth of Geniture of the Deity, and there I was embraced with love, as a bridegroom embraces his dearly beloved bride. But the greatness of the triumphing that *was* in the spirit I cannot express either in speaking or writing; neither can it be compared to anything, but with that wherein the life is generated in the midst of death, and it is like the resurrection from

* See quotation from van Manen's Book, Chapter 11, pp. 107-9.

the dead. In this light my spirit suddenly saw through all, and in and by all the creatures, even in herbs and grass, it knew God, who he is, and how he is, and what his will is; and suddenly in that light my will was set on, by a mighty impulse, to describe the being of God. But because I could not presently apprehend the deepest births of God in their being and comprehend them in my reason, there passed almost twelve years before the exact understanding thereof was given me. And it was with me as with a young tree which is planted in the ground, and at first is young and tender, and flourishing to the eye, especially if it comes on lustily in its growing. But it does not bear fruit presently; and though it blossoms, they fall off; also many a cold wind, frost and snow, puff upon it, before it comes to any growth and bearing of fruit.

Boehme's books are full of wonder at the mysteries which were revealed to him.

* I was as simple concerning the hidden mysteries [he writes], as the meanest of all; *but my virgin of the wonders of God* taught me, so that I must write of his wonders; though indeed my purpose is to write this for a memorandum for myself. . . .

Not I, the I that I am [he says], *know those things: but God knows them in me.*

If you will behold your own self and the outer world, and what is taking place therein, you will find that you, with regard to your external being, are that external world.

His 'Dialogues between a Disciple and his Master' are remarkable. (By Disciple and Master should be understood the lower and higher consciousness in man.)

The Disciple said to his Master: Sir, how may I come to the Supersensual Life, so that I may see God, and may hear God speak?

The Master answered and said: Son, when thou canst throw thyself into THAT, where no Creature dwelleth, though it be but for a moment, then thou hearest what God speaketh.

Disciple. Is that where no Creature dwelleth near at hand, or is it afar off?

Master. It is in *thee*. And if thou canst, my Son, for a while but cease from all thy thinking and willing, then thou shall hear the unspeakable words of God.

Disciple. How can I hear him speak, when I stand still from thinking and willing?

Master. When thou standest still from the thinking of Self, and the willing of Self. When both thy intellect and will are quiet, and passive to the expressions of the Eternal Word and Spirit; and when thy soul is winged up and above that which is temporal, the outward senses and the imagination being locked up by holy abstraction, then the Eternal Hearing, Seeing and Speaking will be revealed in thee, and so God heareth and seeth through thee, being now the organ of *his* Spirit, and so God speaketh in *thee*, and whispereth to thy spirit, and thy spirit heareth his voice.

Blessed art thou therefore if thou canst stand still from self-thinking and self-willing, and canst stop the wheel of thy imagination and senses. . . . Since it is nought indeed but thine own hearing and willing that do hinder thee, so that thou dost not see and hear God. . . .

Disciple. O Loving Master ... I can no longer endure that any Thing should divert me; . . . how shall I find the nearest way to it?

Master. Where the way is hardest, there walk thou, and what the world casteth away, that take thou up; and what the world doth, that do thou not. But in all things walk thou contrary to the world. So thou comest the nearest way to that which thou art seeking. . . .

Disciple. O how may I arrive at the Unity of Will, and how come into the Unity of Vision?

Master. Mark now what I say. The Right Eye looketh forward in thee into Eternity. The Left Eye looketh backwards in thee into Time. If thou now sufferest thyself to be always looking into Nature, and the Things of Time, it will be impossible for thee ever to arrive at the Unity, which thou wishest for. Remember this, and be upon thy watch. Give not thy mind leave to enter into nor to fill itself with that which is without thee; neither look thou backwards upon thyself. . . . Let not thy Left Eye deceive thee by making continually one representation after another, and stirring up thereby an earnest longing in the self-propriety; but let thy right eye command this left. . . . But never shall thou arrive at the Unity of Vision or Uniformity of Will, but by ... bringing the Eye of Time into the Eye of Eternity, and then descending by means of these united through the Light of God into the Light of Nature.

The third dialogue is between Junius, a scholar, and Theophorus, his master, concerning heaven and hell.

The Scholar asked his Master: Whither goeth the Soul when the Body Dieth?

His Master answered him: There is no necessity for it to go any whither. How not, said the inquisitive Junius, must not the Soul leave the body at death and go either to Heaven or Hell?

It needs no going forth, replied the venerable Theophorus. . . . The Soul hath Heaven and Hell within itself before, according as it is written. . . . And whichsoever of the two, either Heaven or Hell, is manifested in it, in that the soul standeth.*

The extracts quoted here are sufficient to indicate the character of the writings of an uneducated *shoemaker* from a small provincial town in Germany of the sixteenth to seventeenth century. Boehme is remarkable for the pronounced intellectuality of his 'comprehensions', although the moral element in them is also very strong.

* Jacob Behmen, *Dialogues on the Supersensual Life*, London, Methuen, 1901.

In the book already mentioned (*The Varieties of Religious Experience*) Professor William James dwells with great attention on Christian mysticism, which contributed a great deal to the establishment of the *cognitive* side of mysticism.

I borrow from him the description of mystical experiences of certain Christian saints.

Saint Ignatius confessed one day to Father Laynez that a single hour of meditation at Manfesa had taught him more truth about heavenly things than all the teachings of all the doctors put together could have taught him. . . . One day in orison, on the steps of the choir of the Dominican church, he saw in a distinct manner the plan of divine wisdom in the creation of the world. On another occasion, during a procession, his spirit was ravished in God, and it was given him to contemplate, *in a form and images fitted to the weak understanding of a dweller on the earth*, the deep mystery of the holy Trinity. This last vision flooded his heart with such sweetness, that the mere memory of it in after times made him shed abundant tears.

Similarly with Saint Teresa. 'One day, being in orison,' she writes, 'it was granted me to perceive in one instant how all things are seen and contained in God. I did not perceive them in their proper form, and nevertheless the view I had of them was of a sovereign clearness, and has remained vividly impressed upon my soul. It is one of the most signal of all the graces which the Lord has granted me. . . . The view was so subtle and delicate that the understanding cannot grasp it.'

She goes on to tell how it was as if the Deity were an enormous and sovereignly limpid diamond, in which all our actions were contained in such a way that their full sinfulness appeared evident as never before.

On another day she relates, 'Our Lord made me comprehend in what way it is that one God can be in three Persons. He made me see it so clearly that I remained as extremely surprised as I was comforted . . . and now when I think of the holy Trinity, or hear it spoken of, I understand how the three . . . Persons form only one God and I experience an unspeakable happiness.'

Professor James points out that Christian mysticism is very close to the 'Upanishads' and the 'Vedanta'.

The fountain head of Christian mysticism is Dionysius the Areopagite. He describes the absolute truth by *negatives* exclusively.

The cause of all things is neither soul nor intellect; nor has it imagination, opinion, or reason, or intelligence; nor is it reason or intelligence; nor is it spoken or thought. It is neither number, nor order, nor magnitude, nor littleness, nor equality, nor inequality, nor similarity, nor dissimilarity. It neither stands, nor moves, nor rests. . . . It is neither essence, nor eternity, nor time. Even intellectual contact does not belong to it. It is neither science nor truth. It is not even royalty or wisdom; not

one; not unity; not divinity or goodness; nor even spirit as we know it. . . .'*

The writings of mystics of the Orthodox Church are collected in the books, called *Philokalia*, comprising five large volumes, difficult to read. I have taken a few examples of deep and subtle mysticism from the book *Superconsciousness and Ways to its Attainment* by M. V. Lodizhensky who studied *Philokalia* and found there remarkable examples of philosophical thought.

Imagine a circle [says Avva Dorotheus - seventh century], in the middle, its centre, and radii, or rays, going out of this centre. The further these radii travel from the centre, the more divergent and distant they become from one another; and the other way round, the closer they are to the centre, the nearer they approach one another. Imagine now that this circle is the world, the very middle of it. God, and the straight lines (radii) going out from the centre towards the circumference, or going from the circumference towards the centre are the paths of men's lives. And here also, the further the saints penetrate inside the circle towards the middle of it, desiring to approach God, the closer, according to the depth of this penetration, they come to God and to each other. . . . Understand similarly about going out from the centre. - The more they withdraw from God . . . the more, in the same measure, they withdraw from one another, and as much as they withdraw from one another, so much they withdraw from God. Such also is the property of love: to the extent that we are withdrawn and do not love God, each of us is also far from his neighbour. But if we love God, then to the extent that we approach to God in our love of Him, we become united in love with our neighbours; and as much as we are united with our neighbours, so much we become united with God also (*Super-consciousness*, p. 266; *Philokalia*, vol. II, p. 617).**

Hear now [says St Isaac of Syria (sixth century)] how a man becomes finer, acquires that which is of the spirit and in his life becomes akin to the invisible powers. . . . When vision has soared above earthly things and the

* William James, *The Varieties of Religious Experience*, London, Longmans Green, 1917.

** The author of *Superconsciousness*, M. V. Lodizhensky, told me that in the summer of 1910 he was in Yasnaya Poliana on a visit to L. N. Tolstoy, and had a talk with him about mystics and the *Philokalia*. At first Tolstoy took a very sceptical attitude to mysticism, but when M. V. Lodizhensky read to him the quotation, given here, from Avva Dorotheus, about the circle, Tolstoy became very enthusiastic, ran into another room and brought out a letter in which a triangle was drawn. It transpired that he had independently almost grasped the thought of Avva Dorotheus and was writing to someone that God was the apex of the triangle and men were points at the angles;

coming closer to one another, they come nearer to God, and coming nearer to God they come closer to one another. A few days later Tolstoy rode over to Lodizhensky, who lived near Tula, and read different parts of *Philokalia* there, regretting very much that he had not known these books before. (P.D.O.)

cares of earthly doings, when it begins to test its thoughts in that which is within, hidden from the eyes, when it reaches out on high, and is led by faith in its care for the life to come, its longing for that which has been promised us, and its search for hidden mysteries, - then faith itself consumes this knowledge and becomes transformed. Thus the knowledge is born again, becoming entirely of the spirit. Then it can soar on wings into the regions of the incorporeal spirits, may touch the depths of the intangible sea, representing in the mind the marvellous acts of Divine rule in the natures of thinking and feeling beings; and can seek out spiritual mysteries which may be comprehended by a simple and subtle mind. Then the inner senses wake up to spiritual doing, after the manner that they will be in the immortal and imperishable life; because, even in this world, it has undergone, as it were in secret, a mental resurrection, in true token of the general resurrection (*Superconsciousness*, p. 370; *Philokalia*, vol. II, p. 658).

When the grace of the Holy Spirit [says Maxim Kapsokalivit], descends on anyone, it shows him nothing of the ordinary things of this sensual world, but makes him see things he never saw or imagined. Then the mind of such a man learns from the Holy Spirit the high and hidden mysteries which, according to the divine Paul, neither the human eye can understand, nor the human reason comprehend unaided (I Corinthians 2: 9). And so that you may understand how our mind sees them, ponder over what I shall say to you. Wax, when it is far from the fire, is hard, and it is possible to handle it and hold it. But as soon as it is thrown into the fire, it immediately melts, and so becomes alight in the fire and burns. Thus everything becomes light, and everything ends in the midst of flames. So also is the human mind: when it stands by itself, unconnected with God, it comprehends everything around it in the usual way, according to its powers. But when it comes close to the Divine fire and to the Holy spirit, it is wholly enveloped by this Divine fire, and becomes all light, and so, burning in the flame of the Holy Spirit, it spreads itself in Divine thoughts. Then, in the midst of the Divine fire it is impossible for it to think about its own affairs and wishes (*Superconsciousness*, p. 370; *Philokalia*, vol. V, P. 475).

St Basil the Great says about Divine revelation:

Wholly unutterable and indescribable is the lightning-like radiance of Divine beauty; no word can express it, and no ear can take it in. If we name the brightness of the day, the light of the moon or the radiance of the sun -none of this is worthy of being compared with the glory of the true light and is, by comparison, further removed from it than the deepest night or the most terrible darkness is removed from the brightness of noon. When this beauty, invisible to bodily eyes and apprehended only by the soul and by thought, illumined some of the saints, piercing them through with an unbearable longing for the vision of Divine beauty to last for eternity, then were they repelled by the present life and bore it like irksome fetters (*Superconsciousness*, p. 372, *Philokalia*, vol. V).

A strange word will I say to you [says St Theognis], do not be surprised. There is a hidden sacrament which takes place between God and the soul. This happens to those who have reached the highest measure of perfect purity of love and faith, when a man, completely transformed, ceaselessly unites with God, as His own, through prayer and contemplation (*Superconsciousness*, p. 381; *Philokalia*, vol. III, p. 396).

Some passages from the writings of Clement of Alexandria (second century) are extremely interesting.

Painting appears to take in the whole field of view in the scenes represented. But it gives a false description of the view, according to the rules of the art, employing the signs that result from the incidence of the lines of vision. By this means, the higher and the lower points in the view, and those between, are preserved; and some objects seem to appear in the foreground, and others in the background, and others to appear in some other way, on the smooth and level surface. So also philosophers copy truth, after the manner of painting.*

Clement of Alexandria points here to a very important aspect of *truth*, namely, to the *impossibility of expressing it in words*, and to the *conditional* character of all philosophical systems and formulations. His idea is that dialectically truth is represented only in perspective, i.e. *inevitably* in a distorted form.

How much time and labour would be saved, and how much useless suffering humanity would be spared, if it could understand the simple fact that *truth cannot be expressed in our language*. Then men would cease to think that they possessed truth, would cease to force other people to accept *their truth* at any cost. They would think then that others may approach truth *from another side*, just as they themselves approach it from their own side. How many arguments, how many religious conflicts, how much coercion of the thought of others would be unnecessary and impossible if men realized that *no one* has the truth, but that all are seeking it, each in his own way.

The ideas of Clement of Alexandria about *God* are very interesting. They are very similar to those of the Vedânta and especially to those of Chinese philosophers.

The discourse respecting God is most difficult to handle. For, since the first principle of everything is difficult to find out, the absolutely first and oldest principle, which is the cause of all other things being and having been, is difficult to exhibit. For how can that be expressed which has neither genus, nor difference, nor species, nor individual, nor number;

* *Extracts from the Writings of Clement of Alexandria*, The Theosophical Society, 1905.

may more, is neither an event nor that to which an event happens? No one can rightly express Him wholly. For on account of His greatness He is ranked as the All and is the Father of the Universe. Nor are any parts to be predicated of Him. For the One is indivisible, wherefore also it is infinite, not considered with reference to inscrutability, but with reference to its being without dimensions, and not having a limit. And therefore it is without form and name. And if we name it, we do not do so properly, terming it either the One, or the Good, or Mind, or Absolute Being, or Father, or God, or Creator, or Lord. We speak, not as supplying His name, but for want we use good names, in order that the mind may have these as points of support, so as not to err in other respects.*

Among the Chinese philosopher-mystics our attention is arrested by Lao-Tzu (sixth century BC) and Chuang Tzu (fourth century BC), on account of the clearness of their thought and the extraordinary simplicity with which they express the most profound doctrines of idealism.

The Sayings of Lao-Tzu

The Tao which can be expressed in words is not the eternal Tao; the name which can be uttered is not its eternal name. . . .

Tao eludes the sense of sight, and is therefore called colourless. It eludes the sense of hearing, and is therefore called soundless. It eludes the sense of touch, and is therefore called incorporeal. These three qualities cannot be apprehended, and hence they may be blended into unity. . . .

Ceaseless in action, it cannot be named, but returns again to nothingness. We may call it the form of the formless, the image of the imageless, the fleeting and the indeterminate. . . .

There is something, chaotic yet complete, which existed before heaven and earth. Oh, how still it is, and formless, standing alone without changing, reaching everywhere without suffering harm! . . .

Its name I know not. To designate it, I call it Tao. Endeavouring to describe it, I call it Great.

Being Great, it passes on; passing on; it becomes remote; having become remote, it returns. . . .

The law of Tao is its own spontaneity.

Tao in its unchanging aspect has no name.

The mightiest manifestations of active force flow solely from Tao.

Tao as it exists in the world is like the great rivers and seas which receive the streams from the valleys.

All-pervading is the Great Tao. It can be at once on the right hand and on the left.

. . . .

Tao is a great square with no angles ... a great sound which cannot be heard, a great image with no form. . . .

* *Ibid.*

Tao produced Unity; Unity produced Duality; Duality produced Trinity; and Trinity produced all existing objects. . . .

He who acts in accordance with Tao, becomes one with Tao. . . .

All the world says that my Tao is great, but unlike other teachings. If it had this likeness, long ago would its smallness have been known. . . .

The sage attends to the inner and not to the outer; he puts away the objective and holds to the subjective.

The sage occupies himself with inaction, and conveys instruction without words. . . .

Who is there that can make muddy water clear? But if allowed to remain still, it will gradually become clear of itself. Who is there that can secure a state of absolute repose? But let time go on, and the state of repose will gradually arise. . . .

Tao is eternally inactive, and yet it leaves nothing undone. . . .

The pursuit of book-learning brings about daily increase [i.e. increase of knowledge]. The practice of Tao brings about daily loss [i.e. loss of ignorance]. Repeat this loss again and again, and you arrive at inaction. Practise inaction, and there is nothing which cannot be done. . . .

Practise inaction, occupy yourself with doing nothing. . . .

Leave all things to take their natural course, and do not interfere. . . .

All things in Nature work silently. . . .

Among mankind, the recognition of beauty as such implies the idea of ugliness, and the recognition of good implies the idea of evil. . . .

Cast off your holiness, rid yourself of sagacity, and the people will benefit a hundredfold. . . .

Those who know do not speak; those who speak do not know.

He who acts, destroys; he who grasps, loses. Therefore the sage does not act, and so does not destroy; he does not grasp, and so he does not lose. . . .

The soft overcomes the hard; the weak overcomes the strong. There is no one in the world but knows this truth, and no one who can put it into practice.*

Musings of Chuang-Tzu

You cannot speak of ocean to a well-frog - the creature of a narrower sphere. You cannot speak of ice to a summer insect - the creature of a season. You cannot speak of Tao to a pedagogue: his scope is too restricted.

But now that you have emerged from your narrow sphere and have seen the great ocean, you know your own insignificance, and I can speak to you of great principles.

Dimensions are limitless; time is endless. Conditions are not invariable; terms are not final.

There is nothing which is not objective; there is nothing which is not subjective. But it is impossible to start from the objective. Only from subjective knowledge is it possible to proceed to objective knowledge. . . .

* *The Sayings of Lao-Tzu*, trs. Lionel Giles, London, 1905.

When subjective and objective are both without their correlates, that is the very axis of Tao.

Tao has its laws and its evidences. It is devoid both of action and of form.

It may be obtained but cannot be seen.

Spiritual beings draw their spirituality therefrom.

To Tao no point in time is long ago.

Tao cannot be existent. If it were existent, it could not be non-existent. The very name of Tao is only adapted for convenience's sake. Predestination and chance are limited to material existences. How can they bear upon the infinite?

Tao is something beyond material existences. It cannot be conveyed either by words or by silence. In that state which is neither speech nor silence, its transcendental nature may be apprehended.*

In contemporary theosophical literature, two small books stand alone among the rest: *The Voice of the Silence* by H. P. Blavatsky and *Light on the Path* by Mabel Collins. Both contain many genuine mystical sensations.

The Voice of the Silence **

He who would hear the voice of the silence, the soundless sound, and comprehend it, he has to learn the nature of the intense and perfect concentration of the mind upon some one interior object, accompanied by a complete abstraction from everything pertaining to the external universe, or the world of the senses.

Having become indifferent to objects of perception, the pupil must seek out the Raja of the senses, the thought-producer, he who awakes illusion.

The mind is the greater slayer of the Real.

Let the disciple slay the slayer.

For when to himself his form appears unreal, as do on waking all the forms he sees in dreams; when he has ceased to hear the many, he may discern the One - the inner sound which kills the outer.

Then only, not till then, shall he forsake the region of the false, to come into the realm of the true.

Before the soul can see, the harmony within must be attained, and fleshly eyes be rendered blind to all illusion.

Before the soul can hear, the image (man) has to become as deaf to roarings as to whispers, to cries of bellowing elephants as to the silvery buzzing of the golden fire-fly.

And then to the inner ear will speak

The Voice of the Silence and

say:

* *Musings of a Chinese Mystic*, trs. Lionel Giles, Wisdom of the East Series. ** *The Voice of the Silence*, trs. H. P. Blavatsky, London and New York, Theosophical Publishing House, 1937.

If thy soul smiles while bathing in the sunlight of thy life; if thy soul sings within thy chrysalis of flesh and matter; if thy soul weeps inside her castle of illusion; if thy soul struggles to break the silver thread that binds her to the Master; know, O disciple, thy soul is of the earth. . . .

Give up thy life, if thou would'st live. . . .

Learn to discern the real from the false, the everfleeting from the everlasting. Learn above all to separate head-learning from soul-wisdom, the 'eye' from the 'heart' doctrine.

Light on the Path, like *The Voice of the Silence* is full of symbols, allusions and hidden meaning. This little book must be deeply read. Its meaning now disappears, now appears again. It should be read in a special mood. *Light on the Path* prepares the 'disciple' to meet the 'Master', i.e. it prepares the ordinary consciousness for communion with higher consciousness. The term *Master* is used, according to the author of *Light on the Path*, as the symbol of the 'Divine Life'.*

Light on the Path

Before the eyes can see, they must be incapable of tears. Before the ear can hear, it must have lost its sensitiveness. Before the voice can speak in the presence of the Masters it must have lost the power to wound. Before the soul can stand in the presence of the Masters its feet must be washed in the blood of the heart. . . .

Kill out all sense of separateness.

Desire only that which is within you.

Desire only that which is beyond you.

Desire only that which is unattainable.

For within you is the light of the world. . . . If you are unable to perceive it within you, it is useless to look for it elsewhere. . . . It is unattainable, because it forever recedes. You will enter the light, but you will never touch the flame. . . .

Seek out the way.

Look for the flower to bloom in the silence that follows the storm: not till then. . . .

And in the deep silence the mysterious event will occur which will prove that the way has been found. Call it by what name you will, it is a voice that speaks where there is none to speak - it is a messenger that comes, a messenger without form or substance; or it is the flower of the soul that has opened. It cannot be described by any metaphor. . . .

* Mabel Collins, *Light on the Path*, Theosophical Publishing House, London, 1912, reprinted 1936.

To hear the voice of the silence is to understand that from within comes the only true guidance ... for when the disciple is ready the Master is ready also. . . . Hold fast to that which has neither substance nor existence.

Listen only to the voice which is soundless.

Look only on that which is invisible.

In his book, Professor James calls attention to the extraordinarily vivid emotionality of mystical experiences and to the completely unusual sensations experienced by the mystics.

The deliciousness of some of these states seems to be beyond anything known in ordinary consciousness. It evidently involves organic sensibilities, for it is spoken of as something too extreme to be borne, and as verging on bodily pain. But it is too subtle and piercing a delight for ordinary words to denote. God's touches, the wounds of his spear, references to ebriety and to nuptial union have to figure in the phraseology by which it is shadowed forth.*

The joy of contact with the Deity, described by St Simeon the New Theologian (tenth century) may serve as an example of such a state. **

I am pierced by the arrow of His love [writes St Simeon]... He is Himself inside me, in my heart; he embraces me, kisses me, fills me with light. ... A new flower grows in me, new because it is full of joy. . . . The flower is of an indescribable form, is seen only while it comes out, then it suddenly disappears. ... It is of indescribable appearance; it draws my mind to itself and does not let me remember anything connected with fear;

it makes me forget everything, and then suddenly vanishes. Then the tree of fear remains again without fruit; I moan in sorrow and pray to thee, my Christ; again I see the flower on the branches. I fasten my attention to it alone, and I see not only the tree, but also the brilliant flower which draws me irresistibly. In the end the flower transforms itself into the fruit of love. ... It is inexplicable how from fear grows love.

Mysticism permeates all religions.

In India [says Professor James] training in mystical insight has been known from time immemorial under the name of Yoga. Yoga means the experimental union of the individual with the divine. It is based on persevering exercise, and the diet, posture, breathing, intellectual concentration, and moral discipline vary slightly in the different systems which teach it. The yogi, or disciple, who has by these means overcome the obstructions of his lower nature sufficiently, enters into the conditions termed *samādhi*, and

* William James, *The Varieties of Religions Experience*, New York, Longmans Green, 1917.

** Paul Anikieff, *Mysticism of St Simeon the New Theologian*, St Petersburg, 1906.

comes face to face with facts which no instinct or reason can ever know. . . .

When a man comes out of *samâdhi*, they [the Vedântists] assure us that he remains 'enlightened, a sage, a prophet, a saint, his whole character changed, his life changed, illumined.'

The Buddhists use the word 'samâdhi' as well as the Hindus; but 'dhyâna' is their special word for higher states of contemplation. . . .

Higher states still of contemplation are mentioned - a region where there exists nothing, and where the meditator says: 'There exists absolutely nothing,' and stops. Then he reaches another region where he says: 'There are neither ideas nor absence of ideas,' and stops again. Then another region where, 'having reached the end of both idea and perception, he stops finally'. This would seem to be not yet Nirvana, but as close an approach to it as this life affords.*

In Mohammedanism there is also a great deal of mysticism. The most characteristic expression of Mohammedan mysticism is Persian *Sufism*. 'Sufism' is both a religious sect and a philosophical school of a very high idealistic character, which struggled against materialism as well as against narrow fanaticism and the literal understanding of the Koran. The Sufis interpreted the Koran mystically. Sufism is the philosophical free-thinking of Mohammedanism, coupled with their own peculiar symbolic and vividly sensual poetry which always has a hidden mystical meaning. The blossoming time of Sufism was in the first centuries of the second millenium of the Christian era.

Sufism remained for a long time incomprehensible to European thought. From the point of view of Christian theology and Christian morality a combination of sensuality and religious ecstasy is inadmissible. But in the East the two managed to exist together in perfect harmony. In the Christian world the 'carnal' was always considered inimical to the 'spiritual'. In the Moslem world the carnal and sensual was accepted as a symbol of the spiritual. The expression of religious and philosophical truths 'in the language of love' was a very widely spread custom in the East. These are the 'Oriental flowers of eloquence'. All allegories, all metaphors were borrowed from 'love'. '*Mohammed fell in love with God*', say the Arabs, wishing to convey the ardent quality of Mohammed's religious feeling. '*Choose a fresh wife every spring - on New Year's Day; for the Almanac of last year is good for nothing*',** says the Persian poet and philosopher Sadi. In this curious form Sadi expresses the thought which Ibsen puts in the mouth of Dr Stockman: '*Truths are by no means the wiry Methuselahs some people think them. A normally constituted truth*

* *The Varieties of Religions Experience.*

** *Sadi's Scroll of Wisdom*, Wisdom of the East Series, London, 1913.

*lives — let us say - as a rule, seventeen or eighteen years; . . . very seldom more.**

The poetry of the Sufis will become clearer to us if we bear in mind this generally sensual character of the literary language of the East, which comes from the deepest antiquity. An example of this *ancient* literature is the Song of Songs.

Many passages in the Bible and all ancient Eastern myths and tales have this characteristic sensual imagery which is so strange to us.

'Sufi poets, for the most part, wrote about the love of God in terms applied to their beautiful women,' says F. H. Davis, translator of *Jami* and other poets, 'for the simple reason that no one can write the celestial language and be understood at the same time.' **

The idea of the Sufis, says M. Müller, is a *loving union of the soul with God*.

The Sufi holds that there is nothing in human language that can express the love between the soul and God so well as the love between man and woman, and that if he is to speak of the union between the two at all, he can only do so in the symbolical language of earthly love. . . . When we read some of the Sufi enraptured poetry, we must remember that the Sufi poets use a number of expressions which have a recognized meaning in their language. Thus *sleep* signifies meditation; *perfume*, hope of divine favour; . . . *kisses* and embraces, the raptures of piety. . . . *Wine* means spiritual knowledge, and so on.

As Sady says, the flowers which a lover of God has gathered in his rose-garden, and which he wishes to give to his friends, so overpowered his mind by their fragrance, that they fell out of his lap and withered; that is to say, the glory of ecstatic visions pales and fades away when it has to be put into human language. ***

Generally speaking, in Sufism poetry and mysticism are merged more than anywhere else in the world. Sufi poets often led strange lives as hermits, anchorites, pilgrims, at the same time singing of love, the beauty of women, the perfume of roses and wine.

Jelal-ed-din Rumi describes the union of the soul with God in the following way:

A loved one said to her lover to try him, early in the morning; 'O such a one, son of such a one, I marvel, whether you hold me more dear, or yourself; tell me truly, O ardent lover!' He answered: 'I am so entirely absorbed in you, that I am full of you from head to foot. Of my own existence nothing but the name remains, in my being is nothing besides

* Henrik Ibsen, *An Enemy of the People*, London, W. Heinemann, 1907. ** *The Persian Mystics*, vol. I, Wisdom of the East Series, London, 1907. *** Max Müller, *Theosophy or Psychological Religion*, New York, Longmans Green, 1899.

you, O object of my desire. Therefore I am thus lost in you ... as a stone, which has been changed into a pure ruby, is filled with the bright light of the sun.*

In two well-known poems of Jami (fifteenth century) 'Salâmân and Absâl' and 'Yusuf and Zulaikha', the 'ascending of the soul', its purification and its union with God are described in the most passionate forms.

In his book, *The Varieties of Religious Experience*, Professor James gives a great deal of attention to *mystical states under narcosis*.

It is a realm [he says] that public opinion and ethical philosophy have long since branded as pathological, though private practice and certain lyric strains of poetry seem still to bear witness of its ideality. . . .

Nitrous oxide and ether, especially nitrous oxide, when sufficiently diluted with air, stimulate the mystical consciousness in an extraordinary degree. Depth beyond depth of truth seems revealed to the inhaler. This truth fades out, however, or escapes, at the moment of coming to; and if any words remain over in which it seemed to clothe itself, they prove to be the variest nonsense. Nevertheless, the sense of a profound meaning having been there persists; and I know more than one person who is persuaded that in the nitrous oxide trance we have a genuine metaphysical revelation.

Some years ago I myself made some observations on this aspect of nitrous oxide intoxication, and reported them in print. One conclusion was forced upon my mind at that time, and my impression of its truth has ever since remained unshaken. It is that our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go through life without suspecting their existence; but apply the requisite stimulus, and at a touch they are there in all their completeness, definite types of mentality which probably somewhere have their field of application and adaptation. No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded. ... At any rate, they forbid a premature closing of our account with reality. . . .

The whole drift of my education goes to persuade me that the world of our present consciousness is only one of many worlds of consciousness that exist, and that those other worlds must contain experiences which have a meaning for our life also. . . .

Looking back on my own experiences, they all converge towards a kind of insight to which I cannot help ascribing some metaphysical significance. The keynote of it is invariably a reconciliation. It is as if the opposites of the world, whose contradictoriness and conflict make all our difficulties and troubles, were melted into unity. Not only do they, as contrasted species,

* *The Persian Mystics*, op. cit.

belong to one and the same genus, but *one of the species*, the nobler and better one, *is itself the genus, and so soaks up and absorbs its opposite into itself*. This is a dark saying, I know, when thus expressed in terms of common logic, but I cannot wholly escape from its authority. I feel as if it must mean something, something like what the Hegelian philosophy means, if one could only lay hold of it more clearly. Those who have ears to hear, let them hear; to me the living sense of its reality only comes in the artificial mystic state of mind.

What reader of Hegel can doubt that that sense of a perfected Being with all its otherness soaked up into itself, which dominates his whole philosophy, must have come from the prominence in his consciousness of mystical moods like this, in most persons kept subliminal? The notion is thoroughly characteristic of the mystical level, and the *Aufgabe* of making it articulate was surely set to Hegel's intellect by mystical feeling.

I just spoke of friends who believe in the anaesthetic revelation. For them too it is a monistic insight, in which the *other* in its various forms appears absorbed into the One.

'Into this pervading genus,' writes one of them, 'we pass, forgetting and forgotten, and thenceforth each is all, in God. There is no higher, no deeper, no other, than the life in which we are founded. The One remains, the many change and pass; and each and every one of us *is* the one that remains. . . . This is the ultimatum. . . . As sure as being - whence is all our care - so sure is content, beyond duality, antithesis, or trouble, where I have triumphed in a solitude that God is not above' (B. P. Blood, *The Anaesthetic Revelation and the Gist of Philosophy*, Amsterdam, New York, 1874).

Xenos Clark, a philosopher, who died young at Amherst in the '80's . . . was also impressed by the revelation.

'In the first place,' he once wrote to me, 'Mr. Blood and I agree that the revelation is, if anything, non-emotional. . . . It is, as Mr. Blood says, "the one sole and sufficient insight why, or not why, but how, the present is pushed on by the past, and sucked forward by the vacuity of the future. . . . It is an *initiation of the past*." The real secret would be the formula by which the "now" keeps exfoliating out of itself, yet never escapes. . . . We simply fill the hole with the dirt we dug out. . . . Ordinary philosophy is like a hound hunting his own trail. The more he hunts the farther he has to go, and his nose never catches up with his heels, because it is forever ahead of them. So the present is already a foregone conclusion, and I am ever too late to understand it. *But at the moment of recovery from anaesthesia, just then, before starting on life, I catch, so to speak, a glimpse . . . of the eternal process just in the act of starting*. The truth is that we travel on a journey that was accomplished before we set out; and the real end of philosophy is accomplished, not when we arrive at, but when we remain in, our destination (being already there), - which may occur vicariously in this life when we cease our intellectual questioning. That is why there is a smile upon the face of the revelation, as we view it. It tells us that we are forever half a second too late. . . . "You could kiss your own lips" . . . it says, "if you only knew the trick. It would be perfectly easy if they would just stay there till you got round to them. Why don't you manage it somehow?" . . .

In his latest pamphlet. . . Mr. Blood describes the value of anaesthetic revelation for life as follows:

The Anaesthetic Revelation is the Initiation of Man into the Immemorial Mystery of the Open Secret of Being, revealed as the Inevitable Vortex of Continuity. Inevitable is the word. Its motive is inherent - it is what has to be. It is not for any love or hate, nor for joy or sorrow, nor good nor ill. End, beginning, or purpose, it knows not of.

'It affords no particular of the multiplicity and variety of things; but it fills appreciation of the historical and the sacred with a secular and intimately personal illumination of the nature and motive of existence. . . .

'Although it is at first startling in its solemnity, it becomes directly such a matter of course - so old-fashioned . . . that it inspires exultation rather than fear, and a sense of safety, as identified with the aboriginal and the universal. But no words may express the imposing certainty of the patient that he is realizing the primordial, Adamic surprise of Life.

'Repetition of the experience finds it ever the same, and as if it could not possibly be otherwise. The subject resumes his normal consciousness only to partially and fitfully remember its occurrence, and to try to formulate its baffling import, - with only this consolatory afterthought:

that he has known the oldest truth, and that he has done with human theories as to the origin, meaning, or destiny of the race. He is beyond instruction in "spiritual things."

'The lesson is one of central safety: the Kingdom is within. All days are judgment days: but there can be no climacteric purpose of eternity, nor any scheme of the whole. The astronomer abridges the row of bewildering figures by increasing his unit of measurement: so may we reduce the distracting multiplicity of things to the unity for which each of us stands.

'This has been my moral sustenance since I have known it. In my first printed mention of it I declared: "The world is no more the alien terror that was taught me. Spuming the cloud-grimed and still sultry battlements whence so lately Jehovan thunders boomed, my gray gull lifts her wing against the nightfall, and takes the dim leagues with a fearless eye." And now, after twenty-seven years of this experience, the wing is grayer, but the eye is fearless still, while I renew and doubly emphasize that declaration. I know - as having known - the meaning of Existence: the sane centre of the universe - at once the wonder and the assurance of the soul - for which the speech of reason has as yet no name but the Anaesthetic Revelation.'

I subjoin . . . [Professor James says] another interesting anaesthetic revelation communicated to me in manuscript. The subject, a gifted woman, was taking ether for a surgical operation.

'I wondered if I was in prison being tortured, and why I remembered having heard it said that people "learn through suffering," and in view of what I was seeing, the inadequacy of this saying struck me so much that I said aloud, "to suffer *is* to learn." With that I became unconscious again, and my last dream immediately preceded my real coming to. It only lasted a few seconds and was most vivid and real to me, though it may not be clear in words.

'A great Being or Power was travelling through the sky, his foot was on a

kind of lightning as a wheel is on a rail, it was his pathway. The lightning was made entirely of the spirits of innumerable people close to one another, and I was one of them. He moved in a straight line, and each part of the streak or flash came into its short conscious existence only that he might travel. I seemed to be directly under the foot of God, and I thought he was grinding his own life up out of my pain. Then I saw that what he had been trying with all his might to do was to *change his course, to bend* the line of lightning to which he was tied, in the direction in which he wanted to go. I felt my flexibility and helplessness, and knew that he would succeed. He bended me, turning his corner by means of my hurt, hurting me more than I had ever been hurt in my life, and at the acutest point of this, as he passed, I *saw*.

I understood for a moment things that I have now forgotten, things that no one could remember while retaining sanity. The angle was an obtuse angle, and I remember thinking as I woke that had he made it a right or acute angle, I should have suffered and "seen" still more, and should probably have died.

He went on and I came to. In that moment the whole of my life passed before me, including each little meaningless piece of distress, and I *understood* them. *This* was what it had all meant, *this* was the piece of work it had all been contributing to do. I did not see God's purpose, I only saw his intentness and his entire relentlessness towards his means. He thought no more of me than a man thinks ... of hurting a cartridge when he is firing. And yet, on waking, my first feeling was, and it came with tears, "Domine non sum digna," for I had been lifted into a position for which I was too small. I realized that in that half hour under ether I had served God more distinctly and purely than I had ever done in my life before, or than I am capable of desiring to do. I was the means of his achieving and revealing something, I know not what or to whom, and that, to the exact extent of my capacity for suffering.

While regaining consciousness, I wondered why, since I had gone so deep, I had seen nothing of what the saints call the *love of God*, nothing but his relentlessness. And then I heard an answer which I could only just catch, saying, "Knowledge and Love are One, and the *measure* is suffering" - I give the words as they came to me. With that I came finally to (into what seemed a dream world compared with the reality of what I was leaving). . . .'

J. A. Symonds [says Professor James] also records a mystical experience with chloroform, as follows:

'After the choking and stifling had passed away, I seemed at first in a state of utter blankness; then came flashes of intense light, alternating with blackness, and with a keen vision of what was going on in the room around me, but no sensation of touch. I thought that I was near death;

when, suddenly, my soul became aware of God, who was manifestly dealing with me, handling me, so to speak, in an intense personal present reality. I felt him streaming in like light upon me.... I cannot describe the ecstasy I felt. Then, as I gradually awoke from the influence of the anaesthetic, the old sense of my relation to the world began to return, the new sense of my relation to God began to fade. I suddenly leapt to my feet on the chair where I was sitting, and shrieked out, "It is too horrible,"

meaning that I could not bear this disillusionment. Then I flung myself on the ground, and at last awoke covered with blood, calling to the two surgeons (who were frightened), "Why did you not kill me? Why would you not let me die?"

Anaesthetic states are very closely akin to those strange moments experienced by epileptics during their fits. Epileptic states are described with great understanding by Dostoyevsky in *The Idiot*.

He remembered among other things that he always had one minute just before the epileptic fit when suddenly . . . there seemed a flash of light in his brain, and with extraordinary impetus all his vital forces suddenly began working at their highest tension. The sense of life, the consciousness of self, were multiplied ten times at these moments which passed like a flash of lightning. His mind and his heart were flooded with extraordinary light; all his uneasiness, all his doubts, all his anxieties were relieved at once; they were all merged in a lofty calm, full of serene, harmonious joy and hope. . . .

Thinking of that moment later, when he was all right again, he often said to himself that all these gleams and flashes of the highest sensation of life and self-consciousness, and therefore also of the highest form of existence, were nothing but disease. . . . And yet he came at last to an extremely paradoxical conclusion. 'What if it is disease?' he decided at last, 'What does it matter that it is an abnormal intensity, if the result, if the minute of sensation, remembered and analysed afterwards in health, turns out to be the acme of harmony and beauty, and gives a feeling, unknown and undivined till then, of completeness, of proportion, of reconciliation, and of ecstatic devotional merging in the highest synthesis of life?' These vague expressions seemed to him very comprehensible, though too weak. That it was 'beauty and worship', that it really was 'the highest synthesis of life' he could not doubt, or even admit the possibility of doubt. . . . He was quite capable of judging of that when the attack was over. These moments were only an extraordinary quickening of self-consciousness - if the condition was to be expressed in one word - and at the same time of the direct sensation of existence in the most intense degree. Since at that second, that is at the very last conscious moment before the fit, he had time to say to himself clearly and consciously, 'Yes, for this moment one might give one's whole life!', then without doubt that moment was really worth the whole of life. . . . For the very thing had happened; he actually had said to himself at that second, that, for the infinite happiness he had felt in it, that second really might well be worth the whole of life.

'At that moment,' as he told Rogozhin one day in Moscow. . . . 'at that moment I seemed somehow to understand the extraordinary saying that *there shall be no more time*. Probably,' he added, smiling, 'this is the very second which was not long enough for the water to be spilt out of Mohammed's pitcher, though the epileptic prophet had time to gaze at all the habitations of Allah.'*

* F. Dostoyevsky, *The Idiot*, trs. Constance Garnett, London, William Heinemann, 1913.

Narcosis or epilepsy are not in the least necessary conditions of mystical states in ordinary people.

'Certain aspects of nature seem to have a peculiar power of awakening such mystical moods,' says Professor James.*

It would be more correct to say that this power is concealed in *all aspects of surrounding nature*. The change of the seasons — the first snow, the beginning of spring, summer days, rainy and warm, the smell of autumn - awake in us strange 'moods' which we do not understand ourselves. At times these moods become intensified and reach the sensation of being completely at one with nature. Every man has his own moments which affect him more powerfully than others. One is mystically affected by *thunderstorm*, another by *sunrise*, a third by the *sea*, or *the forest*, or *rocks*. The voice of sex also contains a great deal of this mystical sensation of *nature*.

The feeling of sex places man in the most personal relationship with nature. The feeling of woman by man or *vice versa* is often compared with the feeling of nature. And indeed it is *the same feeling* which is produced by the forest, the steppe, the sea, mountains, only in this case it is more vivid; it awakens more inner voices, touches more inner strings.

A mystical sensation of nature is often produced in men by animals. Almost everyone has his own favourite animal, with which he has some inner affinity. In those animals, or through those animals, people sense nature intimately and personally.

In Indian occultism there exists a belief that every man has his own corresponding animal, through which one can act upon him marginally, through which he can himself act upon others, and into which he can transform himself or be transformed.

Each Indian god has his own particular animal. With Brahma it is the goose; with Vishnu - the eagle; with Shiva - the bull; with Indra - the elephant; with Kali (Durga) - the tiger; with Rama - the buffalo; with Ganesha - the rat; with Agni - the ram; with Kartikkeya (or Subrananyia) - the peacock, and with Kama (the god of love) - the parrot.

It was the same in Greece - all Olympian deities had their own animals.

Sacred animals played a very important part in the religion of Egypt, and there the *cat* - the most magical of animals - was regarded as sacred.

The feeling of nature at times reveals something infinitely deep and

* *The Varieties of Religious Experience.*

new in things which have seemed for a long time familiar and devoid of anything mystical.

The consciousness of God's nearness came to me sometimes . . . [writes one of Professor James's friends, quoted by him], A presence, I might say . . . something in myself made me feel myself a part of something bigger than I, that was controlling. I felt myself one with the grass, the trees, birds, insects, everything in Nature. I exulted in the mere fact of existence, of being a part of it all - the drizzling rain, the shadows of the clouds, the tree-trunks, and so on.*

In *my* own notebook of 19081 found a description of a similar state I had experienced.

It was in the sea of Marmora, on a rainy winter day. In the distance, the high rocky shores were of all shades of violet, down to the palest, fading into grey and merging with the grey sky. The sea was the colour of lead, touched with silver. I remember all these colours. The boat was steaming north. It was rather rough. I was standing by the rail and looking at the waves. The white crests were running towards us from afar. A wave would come up, rear itself as though wanting to hurl its crest on the deck, then with a roar would throw itself under the ship. The ship would heel, shudder, then right itself slowly; but already from afar another wave was running up. I was watching this play of the waves with the ship and feeling the waves drawing me to themselves. It was not the desire to jump down which one feels in the mountains, but something infinitely more subtle. The waves were drawing my soul to themselves. Suddenly I felt it going to them. It was only a moment, maybe less than a moment. But I entered the waves and, with them, with a roar, attacked the ship. And at that moment *I became all*. The waves - they were myself. The violet mountains in the distance - they were myself. The wind - it was myself. The clouds, hurrying from the north, the rain - were myself. The huge ship, rolling indomitably forward - was myself. I felt that huge iron body as *my body*;

all its movements, waverings, rollings and shudderings, the fire, the pressure of steam, the engine - all this was *inside* me. The relentless, inexorable screw which pushed me on and on with every turn, the rudder which never let go *of me* for an instant, watching my every movement

- *all this was I*. The mate on duty on the bridge was I; and two sailors . . . and the black smoke, billowing from the funnel . . . everything.

It was a moment of extraordinary liberation, joy and expansion. A second - and the spell was broken. It vanished as the beginning of a dream fades as soon as one thinks of it. But the sensation was so powerful, vivid and unusual, that I was afraid to move and waited for it to come back. But it did not come back, and a minute later I could no longer say whether it had been or not, whether I had really experienced all this or only *thought*, looking at the waves, that it might be so.

Two years later, the yellowish waves of the Gulf of Finland and the green

* *The Varieties of Religious Experience*.

sky overhead gave me a faint taste of the same sensation. But this time it broke off before anything materialized.

The examples given in this chapter are far from exhausting the mystical experience of humanity.

But what do we see in them?

First of all, *unity of experience*. In mystical sensations all men definitely feel something similar, something that has the same meaning and connection with one another. Mystics of different centuries and nations speak the same language and use the same words. This is the first and most important thing which speaks for the reality of mystical experience. Next is the complete agreement of the results of this experience with the theoretically deduced *conditions of the world of causes* - the sensation of the *unity of all*, characteristic of mysticism; a new sense of *time*; the sense of *infinity*, joy or terror; the knowledge of the whole in the part; infinite life and infinite consciousness. All these are real facts *of sensation* in mystical experience. And these facts are *theoretically correct*. They are such as they should be according to the deductions of the MATHEMATICS OF THE INFINITE and of HIGHER LOGIC. This is all that can be said about them.

CHAPTER 23

Cosmic Consciousness of Dr Bucke. The three forms of consciousness according to Bucke. Simple consciousness, or the consciousness of animals. Self-consciousness, or the consciousness of men. Cosmic consciousness. In what is it expressed? Sensation, representation, concept, higher MORAL concept - creative understanding. Men of cosmic consciousness. The fall of Adam. The knowledge of good and evil. Christ and the salvation of man. Comments on Dr Bucke's book. Birth of the new humanity. Two races. SUPERMAN. TABLE OF THE FOUR FORMS OF MANIFESTATION OF CONSCIOUSNESS.

Many people think that the fundamental problems of life are absolutely insoluble, that mankind will never learn why or for what it is striving, why it is suffering, where it is going. It is considered almost indecent to raise these questions. One is supposed to 'take life as it comes', without thinking, or thinking only about those things which are capable of solution, be it only externally. Men have despaired of finding answers to the principal questions and have given up bothering about them.

At the same time men have a very vague idea of what it is that has produced in them this sense of hopelessness and insolubility. Whence comes this feeling that about many things *it is best not to think?*

Actually, we begin to feel this hopelessness only when we regard man as something 'finite' and complete, when we see nothing beyond man and think that we already know everything there is in man. In this form the problem is indeed hopeless. There is cold comfort in all social theories promising us various blessings upon earth. They leave one with a sense of frustration and with a bad taste in the mouth, even if one believes their promises.

Why? What is all this for? All right, everybody will be fed. Excellent. *But what next?*

Let us suppose - although it is very difficult, almost impossible to suppose - but still let us suppose that material culture, by itself, has given men well-being. Real, unadulterated civilization and culture reign on earth! *Very well, and what next?*

Next, some high sounding phrases about 'incredible horizons'

unfolding before *science* - 'communication with the planet Mars', 'chemical preparation of protoplasm', the 'utilization of the rotation of the earth round the sun' or of 'the energy contained in the atom', 'vaccine for all diseases', '*prolongation of man's life to a hundred years*', or even to a hundred and fifty! Then, maybe, 'the artificial fabrication of human beings' - but after this imagination fails.

There might still be left the possibility of digging through the earth - but that would be completely useless.

And then comes the feeling of the insolubility of the fundamental questions about the purpose of existence, and the sense of hopelessness in face of our lack of understanding.

Indeed, suppose we do dig through the earthly globe - what then? Shall we then dig in another direction? How tedious it all is! But positivist social theories, 'historical materialism' and so on, promise and can promise us nothing else. In order to obtain at least some kind of an answer to the questions which torment us we must turn in quite another direction - to the psychological method of study of man and humanity. And here we see to our surprise that the psychological method has, after all, very satisfactory answers to the principal questions which appear to us insoluble, and around which we ineffectually turn armed with the useless weapons of positivist methods.

The psychological method gives an answer at least to the question of the immediate purpose of our existence. But for some reason people do not want to accept this answer. They insist on the answer being in a form they like, and refuse to accept anything not in that form. They demand the solution of the question of the destiny of man, but of man such as they imagine him to be, and they refuse to recognize the fact that man can and must become something quite different. In man himself there are unmanifested qualities which must be made manifest, and the manifestation of these qualities can alone create a future for man. Man cannot and must not remain as he is now. To think of the future of *this* man is as senseless as to think of the future of a child, thinking that he will remain a child forever. The analogy is not quite complete, because only a very small part of humanity is probably capable of growth. Still this comparison gives a correct picture of the general attitude to this question. And the fate of that greater part of humanity which is incapable of growth depends not on itself, but on the smaller part which will grow. Only inner growth, the development of new powers, will give man a right understanding of himself, his ways and his future, and will enable him to organize life on earth. At the present time the general concept 'man' is too undifferentiated and

embraces completely different categories of men, those capable of development and those incapable of it. Moreover, a man capable of development already has many new qualities which are quite ready but do not manifest themselves, because for their manifestation they require a special culture, special education. *The new view of humanity repudiates the idea of equality* - which does not exist anyway - and strives to establish the signs and facts of the differences between men, because humanity will soon have to separate those who are going forward from those who are incapable of going forward - *the wheat from the tares*, for the tares have become too prolific and are stifling the growth of the wheat.

This is the key to the understanding of our life. And this key has been found long ago!

The riddle has been solved long since. But different thinkers of different epochs, who found solutions, expressed them in various ways, and often, not knowing one another, blazed the same trail with enormous difficulties, without suspecting the existence of their predecessors or their contemporaries who were treading or who had trodden the same path.

In the world's literature there are books, usually little known, which accidentally (or not accidentally) may be found standing on the same shelf, in the same library. Then, taken together, they will give such a full and clear picture of the different sides of man's existence, its purposes and ways, that we shall no longer have any doubts about the destiny of humanity (at least of a small part of it), a destiny *other* than the sentence of hard labour of digging through the early globe which 'positivist philosophy', 'historical materialism', 'socialism' and so on and so forth have in store for it.

If we feel that we do not yet know our destiny, if we still doubt and are afraid to part with the hopelessness of the 'positive' view of life, we do so, first, because we take together, without differentiation, men of totally different categories, with a totally different future, and second, because the ideas we need, through which we could understand the real correlation of forces, have not won a place in official knowledge, do not represent any *recognized* department or branch of knowledge and are rarely to be found together in one book. It is very rare even to find books expressing these ideas, collected together.

We fail to understand many things, because we specialize too easily and too drastically. Philosophy, religion, psychology, mathematics, natural sciences, sociology, history of culture, art - each has its own special literature. There is nothing embracing the whole in its entirety. Even the *bridges* between separate literatures are built badly

and ineffectually, and are often altogether absent. This creation of special literatures is the chief evil and chief obstacle to right understanding of things. Each 'literature' evolves its own terminology, its own language, incomprehensible to representatives of other literatures and *not corresponding to* any of the other languages. In this way each one limits itself still more drastically, dissociates itself from the others and renders its frontiers impassable.

What we have needed for a long time is *synthesis*.

The word *Synthesis* was written on the banner of the modern theosophical movement inaugurated by H. P. Blavatsky. But it remained only a word, because the real result was only new specialization and a separate *theosophical* literature, tending to fence itself off still more from the general movement of thought.

But there are trends of thought which strive to fight against specialization, not in words but in deeds.

Books are appearing which cannot be referred to any of the accepted library classifications, cannot be registered in any faculty. These books are the forerunners of a new literature, which will break down all fences built in the domain of thought, and will clearly show to those who wish to see it where they are going and where they can go.

The names of the authors of these books are the most unexpected combination. I shall not undertake to give a list of authors or their books; I shall only point out the works of Edward Carpenter and a trend of thought whose representative is the Canadian psychiatrist, Dr R. M. Bucke.

Edward Carpenter, straightforwardly and without any allegories or symbols, formulated the thought that the existing consciousness by which modern man lives is only a transitory form, leading to another, a higher consciousness, which *even now* is manifesting itself in certain men, after appropriate preparation and training.

This higher consciousness Edward Carpenter called *cosmic consciousness*.

Carpenter travelled widely in the East, went to India and Ceylon and found there men - hermits and yogis - striving to achieve *cosmic consciousness*, and he holds the opinion that the way to cosmic consciousness has already been found in the East.

In his book *From Adam's Peak to Elephanta*, in the chapters: 'A Visit to a *Gnani*' and 'Consciousness without Thought', he says:

The West seeks the individual consciousness - the enriched mind, ready perceptions and memories, individual hopes and fears, ambitions, loves, conquests - *the self, the local self*, in all its phases and forms - and sorely

doubts whether such a thing as an universal consciousness exists. The East seeks the universal consciousness, and, in those cases where its quest succeeds, individual *self* and life thin away to a mere film, and are only the shadows cast by the glory revealed beyond.

The individual consciousness takes the form of *Thought*, which is fluid and mobile like quicksilver, perpetually in a state of change and unrest, fraught with pain and effort; the other consciousness is not in the form of Thought. It touches, sees, hears, and is those things which it perceives -without motion, without change, without effort, without distinction of subject and object, but with a vast and incredible joy.

The individual consciousness is specially related to the body. The organs of the body are in some degrees its organs. But the *whole* body is only as one organ to the cosmic consciousness. To attain this latter one must have the power of knowing one's self separate from the body, of passing into a state of *ecstasy* in fact. Without this the cosmic consciousness cannot be experienced.*

All the subsequent writings of Carpenter, especially his book of free verse. *Towards Democracy*, lead to the psychology of ecstatic experiences and depict the way by which man advances towards this *principal aim of his existence*, i.e. towards new consciousness.

Only the attainment of this first aim will illumine for a man the past and the future; it will be vision, awakening. Without this, with only the ordinary, sleep consciousness, a man is blind; and he cannot hope to know anything except what he can feel with his blind man's stick.

The psychological picture of the awakening of the new consciousness is given by Dr Bucke in his book *Cosmic Consciousness*.

I shall quote in an abridged form a few fragments from this book.

I

What is cosmic consciousness?

Cosmic consciousness, then, is a higher form of consciousness than that possessed by the ordinary man. This last is self-consciousness and is that faculty upon which rests all of our life (both subjective and objective) which is not common to us and the higher animals, except that small part of it which is derived from the few individuals who have had the higher consciousness above named. To make the matter clear it must be understood that there are three forms or grades of consciousness, (1) *Simple consciousness*, which is possessed by say the upper half of the animal kingdom. (2) *Self-consciousness*, which man has over and above the simple

* Edward Carpenter, *From Adam's Peak to Elephanta*, 2nd edn, reprinted 1921, London, George Allen & Unwin.

consciousness, which is possessed by man as by animals.* (3) *Cosmic consciousness*. By means of simple consciousness a dog or a horse is just as conscious of things about him as a man is; he is also conscious of his own limbs and body and he knows that these are a part of himself. By virtue of self-consciousness man is not only conscious of trees, rocks, waters, his own limbs and body, but he becomes conscious of himself as a distinct entity apart from all the rest of the universe.

It is as good as certain that no animal can realize himself in that way. Further, by means of self-consciousness, man becomes capable of treating his own mental states as objects of consciousness. The animal is, as it were, immersed in his consciousness as a fish in the sea; he cannot, even in imagination, get outside of it for one moment so as to realize it. But man by virtue of self-consciousness can step aside, as it were, from himself and think: 'Yes, that thought that I had about that matter is true; I know it is true, and I know that I know it is true. . . .' Animals cannot think in the same manner . . . but if they could we should soon know it. Between two creatures living together, as dogs or horses and men, and each self-conscious, it would be the simplest matter in the world to open up communication. Even as it is . . . we do enter into the dog's mind pretty freely - we see what is going on there. . . . If he was self-conscious we must have learned it long ago. We have not learned it and it is as good as certain that no dog, horse, elephant or ape ever was self-conscious. Another thing: on man's self-consciousness is built everything in and about us distinctly human. Language is the objective of which self-consciousness is the subjective. Self-consciousness and language (two in one, for they are two halves of the same thing) are the *sine qua non* of human social life, of manners, of institutions, of industries of all kinds, of all arts useful and fine. If any animal possessed

it seems certain that it would upon that master faculty build a superstructure of language. . . . But no animal has done this, therefore we infer that no animal has self-consciousness. The possession of self-consciousness and language by man creates an enormous gap between him and the highest creature possessing simple consciousness merely.

Cosmic consciousness is a third form which is as far above self-consciousness as is that above simple consciousness. . . . The prime characteristic of cosmic consciousness is, as its name implies, a consciousness of the cosmos, that is, of the life and order of the universe. . . . Along with the consciousness of the cosmos there occurs an intellectual enlightenment or illumination which alone would place the individual on a new plane of existence - would make him almost a member of a new species. To this is added a state of moral exaltation, an indescribable feeling of elevation, elation and joyousness, and the quickening of the moral sense, which is fully as striking and more important both to the individual and to the race than is the enhanced intellectual power. With these come, what may be called, a sense of immortality, a consciousness of eternal life, not a conviction that he shall have this, but the consciousness that he has it already.

* In this division lies Dr Bucke's greatest mistake. Human consciousness, i.e. the consciousness of the overwhelming majority of men is 'simple consciousness'; 'self-consciousness', like 'cosmic consciousness' exists only in short glimpses.

Only a personal experience of it, or a prolonged study of men who have passed into the new life, will enable us to realize what this actually is.... The present writer expects his work to be useful in two ways: first, in broadening the general view of human life by comprehending in our mental vision this important phase of it (which is hidden from us), and by enabling us to realize, in some measure, the true status of certain men who, down to the present, are either exalted. . . . to the rank of gods, or. . . are adjudged insane. The view the writer takes is that our descendants will sooner or later reach, as a race, the condition of cosmic consciousness, just as, long ago, our ancestors passed from simple to self-consciousness. He believes that this step in evolution is even now being made, since it is clear to him both that men with the faculty in question are becoming more and more common and also that as a race we are approaching nearer and nearer to that stage of the self-conscious mind from which the transition to the cosmic consciousness is effected. ... He knows that intelligent contact with cosmic conscious minds assists self-conscious individuals in the ascent to the higher plane.

II

Dr Bucke here expresses the view that the immediate future of humanity is indescribably hopeful. At the present time there stand before us three inevitable revolutions, the least of which will reduce to nothing all the known historical upheavals which were called revolutions in the past.* The first is the material (political) revolution, which will come to pass as the result of the establishment of aviation. The second is the economic and social revolution, which will abolish private property and will at once free the earth of two great evils -riches and poverty. And the third is the physical revolution, which is dealt with here.

Either of the first two revolutions will by itself radically change the conditions of human life and will raise it to a greater height. But the third will accomplish hundreds and thousands of times more than the first two taken together. And the three, operating together, will literally create a new heaven and a new earth. The old order of things will be finished and done with, and a new order will take its place.

On account of aviation national boundaries, customs tariffs and perhaps even the differences of language will fade away like shadows. Large cities will no longer have any reason for existence and will dissolve. People who now live in cities, will live in the mountains, or

* See Comment No. 1, of the 'Comments on the quotations from Dr Bucke's book' which follow, p. 274.

by the sea, building their habitations on heights hitherto almost inaccessible, commanding beautiful views. In winter they will probably live in small communities. Both the herding together in big cities and the isolation from all cultured life of the agricultural worker will become things of the past. Distances will be practically abolished and there will be no crowding together in one spot and no enforced solitude.

Socialism will abolish grinding labour, cruel hardships, offensive and demoralizing riches, poverty and all its ensuing ills. All these will become merely subjects for historical novels.*

In contact with the flux of cosmic consciousness all religions known and named to-day will be melted down. The human soul will be revolutionized. Religion will absolutely dominate the race. It will not depend on tradition. It will not be believed and disbelieved. It will not be a part of life, belonging to certain hours, times, occasions. It will not be in sacred books nor in the mouths of priests. It will not dwell in churches and meetings and forms and days. Its life will not be in prayers, hymns and discourses. It will not depend on special revelations, on the words of gods who come down to teach, nor on any bible or bibles. It will have no mission to save men from their sins or to secure them entrance to heaven. It will not teach a future immortality nor future glories, for immortality and all glory will exist in the here and now. The evidence of immortality will live in every heart as sight in every eye. Doubt of God and of eternal life will be as impossible as is now doubt of existence; the evidence of each will be the same. Religion will govern every minute of every day of all life. Churches, priests, forms, creeds, prayers, all agents, all intermediaries between the individual man and God will be permanently replaced by direct and unmistakable intercourse. Sin will no longer exist nor will salvation be desired. Men will not worry about death or a future, about the Kingdom of heaven, about what may come with and after the cessation of the life of the present body. Each soul will feel and know itself to be immortal, will feel and know that the entire universe with all its good and with all its beauty is for it and belongs to it for ever. The world peopled with men, possessing cosmic consciousness will be as far removed from the world of to-day as this is from the world as it was before the advent of self-consciousness.

III

There is a tradition, probably very old, to the effect that the first man was innocent and happy until he ate of the fruit of the tree of the knowledge of good and evil. That having eaten thereof he became aware that he was naked and was ashamed. Further that there sin was born into the world,

* See Comment No. 2, p. 275.

the miserable sense whereof replaced man's former feeling of innocence. That then, and not till then, man began to labour and to cover his body. Stranger than all, the story runs, that along with this change or immediately following upon it there came into man's mind the remarkable conviction which has never since left it but which has been kept alive . . . by the teaching of all true seers, prophets and poets that this accursed thing which has bitten man's heel should eventually be crushed and subjugated by man himself - by the rising up within him of a Saviour - the Christ.

Man's progenitor was a creature . . . with simple consciousness merely. He was (as are to-day the animals) incapable of sin or of the feeling of sin, and equally incapable of shame (at least in the human sense). He had no feeling or knowledge of good and evil. He as yet knew nothing of what we call work and had never laboured. From this state he fell (or rose) into self-consciousness, his eyes were opened, he knew that he was naked, he felt shame, acquired the sense of sin (became in fact what is called a sinner) and learned to do certain things in order to encompass certain ends - that is, he learned to labour.

For weary eons this condition has lasted - the sense of sin still haunts his pathway - by the sweat of his brow he still eats bread - he is still ashamed. Where is the deliverer, the Saviour? Who or what?

The Saviour of man is Cosmic Consciousness - in Paul's language - the Christ. The cosmic sense (in whatever mind it appears) crushes the serpent's head - destroys sin, shame, the sense of good and evil as contrasted one with the other, and will annihilate *labour*, though not human activity.

IV

A personal exposition of Dr Bucke's own cosmic experience and the feelings which preceded it will perhaps help the reader to understand the essence of the facts expounded below.

He was subject at times to a sort of ecstasy of curiosity and hope. As on one special occasion when about ten years old he earnestly longed to die that the secrets of the beyond, if there was any beyond, might be revealed to him . . .

At the age of thirty he fell in with [Walt Whitman's] 'Leaves of Grass', and at once saw that it contained, in greater measure than any book so far found, what he had so long been looking for. He read the 'Leaves' eagerly, even passionately, but for several years derived little from them. At last light broke and there was revealed to him (as far perhaps as such things can be revealed) at least some of the meanings. Then occurred that to which the foregoing is preface.

It was in the early spring, at the beginning of his thirty-sixth year. He and two friends had spent the evening reading Wordsworth, Shelley, Keats, Browning, and especially Whitman. They parted at midnight, and

he had a long drive in a hansom (it was an English city). His mind deeply under the influence of the ideas, images and emotions called up by the reading and talk of the evening, was calm and peaceful. He was in a state of quiet, almost passive enjoyment. All at once, without warning of any kind, he found himself wrapped around as it were by a flame-coloured cloud. For an instant he thought of fire, some sudden conflagration in the great city;

the next he knew that the light was within himself. Directly afterwards came upon him a sense of exultation, of immense joyousness accompanied or immediately followed by an intellectual illumination quite impossible to describe. Into his brain streamed one momentary lightning-flash of the Brahmic splendour which has ever since lightened his life; upon his heart fell one drop of Brahmic Bliss, leaving thenceforward for always an aftertaste of heaven. Among other things he did not come to believe, he saw and, knew that the Cosmos is not dead matter but a living Presence, that the soul of man is immortal, that the universe is so built and ordered that without any peradventure all things work together for the good of each and all, that the foundation principle of the world is what we call love and that the happiness of everyone is in the long run absolutely certain. He claims that he learned more within the few seconds during which the illumination lasted than in previous months or even years of study, and that he learned much that no study could ever have taught.

...

The illumination itself continued not more than a few moments, but its effect proved ineffaceable; it was impossible for him ever to forget what he at that time saw and knew; neither did he, nor could he, ever doubt the truth of what was then presented to his mind. There was no return that night or at any other time of the experience. . . .

The supreme occurrence of that night was his real and sole initiation to the new and higher order of ideas. But it was only an initiation. He saw the light but had no more idea whence it came and what it meant than had the first creature that saw the light of the sun. Years afterwards he met a man who had entered the higher life of which he had had a glimpse and had had a large experience of its phenomena. His conversation with this man threw a flood of light upon the true meaning of what he had himself experienced. . . .

He saw the significance of the subjective light in the case of Paul and in that of Mohammed. The secret of Whitman's transcendent greatness was revealed to him. [Certain conversations and personal intercourse with men who had similar experiences (among whom was Edward Carpenter)] assisted greatly in the broadening and clearing up of his speculations. . . . But much time and labour were still required before the germinal concept could be satisfactorily elaborated and matured, the idea, namely, that there exists a *family* sprung from, living among, but scarcely forming a pan of ordinary humanity, whose members are spread about throughout the advanced races of mankind and throughout the last forty centuries of the world's history.

The trait that distinguishes these people from other men is this: Their spiritual eyes have been opened and they have *seen*. The better known members of this group who, were they collected together, could be accommodated all at one time in a modern drawing-room, have created all

the great modern religions . . . and, generally speaking have created, through religion and literature, modern civilization. Not that they have contributed any large numerical proportion of the books which have been written, but that they have produced the few books which have inspired the larger number of all that have been written in modern times. These men dominate the last twenty-five . . . centuries as stars of the first magnitude dominate the midnight sky.

V

It remains to say a few words upon the psychological origin of... Cosmic Consciousness. . . .

Although in the birth of Cosmic Consciousness the moral nature plays an important part, it will be better for many reasons to confine our attention at present to the evolution of the intellect. In this evolution there are four distinct steps. The first of them was taken when upon the primary quality of excitability sensation was established. At this point began the acquisition and more or less perfect registration of sense impressions -that is, of percepts. A percept is of course a sense impression. ... If we could go back far enough we should find among our ancestors a creature whose whole intellect was made up simply of these percepts. But this creature had in it what may be called an eligibility of growth, and what happened with it was something like this: Individually and from generation to generation it accumulated these percepts, the constant repetition of which, calling for further and further registration, led... to an accumulation of cells in the centre sense ganglia. At last a condition was reached in which it became possible for our ancestor to combine groups of these percepts into what we to-day call a receipt. This process is very similar to that of composite photography [when a series of repeated photographs is taken on one negative; for example, snapshots of members of the same family]. Similar percepts (as of a tree) are registered one over the other until they are generalized into ... a receipt (of a tree).

Now the work of accumulation begins again on a higher plane. The sensory organs keep steadily at work manufacturing percepts; the receptual centres keep steadily at work manufacturing more and yet more receipts.... The capacities of the central ganglia are constantly taxed to do the necessary registration of percepts, the necessary elaboration of these into receipts and the necessary registration of receipts; then as the ganglia by use and selection are improved they constantly manufacture from percepts and from the initial simple receipts, more and more complex, that is, higher and higher receipts.

At last, after many thousands of generations have lived and died, comes a time when the mind ... has reached the highest possible point of purely receptual intelligence; the accumulation of percepts and of receipts has gone on until no greater stores of impressions can be laid up. . . . Then another break is made and the higher receipts are replaced by concepts. The relation of a concept to a receipt is somewhat similar to the relation of

algebra to arithmetic. A receipt is, as I have said, a composite image of hundreds, perhaps thousands, of percepts. . . . But a concept is that composite image - that same receipt - named, ticketed, and, as it were, dismissed. A concept is in fact neither more nor less than a *named receipt* - the name, that is, the sign (as in algebra) standing henceforth for the thing itself, that is, for the receipt.

Now it is as clear as day to anyone who will give the least thought to the subject, that the evolution by which the concepts are substituted for receipts increases the efficiency of the brain for thought as much as the introduction of machinery increased the capacity of the race for work - or as much as the use of algebra increases the power of the mind in mathematical calculations. To replace a great cumbersome receipt by a simple sign was almost like replacing actual goods - as wheat, fabrics and hardware - by entries in the ledger.

But, as hinted above, in order that a receipt may be replaced by a concept it must be named, or, in other words, marked with a sign which stands for it - just as a check stands for a piece of goods; in other words, the race that is in possession of concepts is also, and necessarily, in possession of language. Further, it should be noted, as the possession of concepts implies the possession of language, so the possession of concepts and language (which are in reality two aspects of the same thing) implies the possession of self-consciousness. All this means that there is a moment in the evolution of mind when the receiptual intellect, capable of simple consciousness only, becomes almost or quite instantaneously a conceptual intellect in possession of language and self-consciousness. . . .

Our intellect, then, to-day is made up of a very complex mixture of percepts, receipts and concepts. . . .

The next chapter in the story is the accumulation of concepts. This is a double process. . . . Each one accumulates year by year a larger and larger number, while at the same time the individual concepts are becoming constantly more and more complex.

Is there to be any limit to this growth of concepts in number and complexity? Whoever will seriously consider that question will see that there must be a limit. No such process could go on to infinity. . . .

We have seen that the expansion of the perceptual mind had a necessary limit; that its own continued life led it inevitably up to and into the receiptual mind. That the receiptual mind by its own growth was inevitably led up to and into the conceptual mind. *A priori* considerations make it certain that a corresponding outlet will be found for the conceptual mind.

But we do not need to depend on abstract reasoning to demonstrate the necessary existence of the supra-conceptual mind, since it exists and can be studied with no more difficulty than other natural phenomena. The supra-conceptual intellect, the elements of which instead of being concepts are intuitions, is already (in small numbers it is true) an established fact, and the form of consciousness that belongs to that intellect may be called and has been called - Cosmic Consciousness. . . .

The basic fact in cosmic consciousness is implied in its name - that *fact* is consciousness of the cosmos - this is what is called in the East the 'Brahmic Splendour', which is in Dante's phrase capable of trans-humanizing a man into a god. Whitman, who has an immense deal to say

about it, speaks of it in one place as an 'ineffable light-light rare, untellable, lighting the very light - beyond all signs, descriptions, languages.' This consciousness shows the cosmos to consist not of dead matter governed by unconscious, rigid, and unintending law; it shows it on the contrary as entirely immaterial, entirely spiritual and entirely alive;

it shows that death is an absurdity, that everyone and everything has eternal life; it shows that the universe is God and that God is the universe. ... A great deal of this is, of course, from the point of view of self-consciousness, absurd; it is nevertheless undoubtedly true. Now all this does not mean that when a man has cosmic consciousness he knows everything about the universe. We all know that when at three years of age we acquired self-consciousness we did not at once know all about ourselves. ... So neither does a man know all about the cosmos merely because he becomes conscious of it.

If it has taken the race several hundred thousand years to learn a smattering of the science of humanity since its acquisition of self-consciousness, so it may take millions of years to acquire . . . cosmic consciousness.

As on self-consciousness is based the human world as we see it,... so on cosmic consciousness is based the higher religions and the higher philosophies and what comes from them, and on it will be based, when it becomes more general, a new world of which it would be idle to try to speak to-day.

The philosophy of the birth of cosmic consciousness in the individual is very similar to that of the birth of self-consciousness. The mind becomes overcrowded (as it were) with concepts and these are constantly becoming larger, more numerous and more and more complex. Some day (the conditions being all favourable) the fusion, or what might be called the chemical union, of several of them and of certain moral elements takes place; the result is an intuition and the establishment of the intuitional mind, or, in other words, cosmic consciousness.*

The scheme by which the mind is built up is uniform from beginning to end: a receipt is made of many percepts; a concept of many or several receipts and percepts, and an intuition is made of many concepts, receipts and percepts together with other elements belonging to and drawn from the moral nature. The cosmic vision or intuition, from which what may be called the new mind takes its name, is thus seen to be simply the complex and union of all prior thought and experience - just as self-consciousness is the complex and union of all thought and experience prior to it.

Cosmic consciousness, like other forms of consciousness, is capable of growth; it may have different forms, different degrees.

It must not be supposed that because a man has cosmic consciousness he is therefore omniscient and infallible. . . . [Men of cosmic consciousness have reached a high level, but on that level there can be different degrees of consciousness.] - And it must be still more evident that, however godlike the faculty may be, those who first acquire it, living in diverse ages and countries, passing the years of their ... life in different surroundings, brought up to view of life and interests of life from totally different points

* See Comment No. 3, p. 288.

of view, must necessarily interpret somewhat differently those things which they see in the new world which they enter.

Language corresponds to the intellect and is therefore capable of expressing it perfectly and directly; on the other hand, the functions of the moral nature are not connected with language and are only capable of indirect expression by its agency. Perhaps music, which certainly has its roots in the moral nature, is, as at present existing, the beginning of a language which will tally and express emotion as words tally and express ideas. . . .

Language is the exact tally of the intellect: for every concept there is a word or words and for every word there is a concept. . . . No word can come into being except as the expression of a concept, neither can a new concept be formed without the formation (at the same time) of the new word which is its expression. . . . But as a matter of fact ninety-nine out of every hundred of our sense impressions and emotions have never been represented in the intellect by concepts and therefore remain unexpressed and inexpressible except imperfectly by roundabout description and suggestion. . . .

As the correspondence of words and concepts is not casual or temporary but resides in the nature of these and continues during all time and under all circumstances absolutely constant, so changes in one of the factors must correspond with changes in the other. So evolution of intellect must be accompanied by evolution of language. An evolution of language will be evidence of intellect. . . .

It seems that in every, or nearly every, man who enters into cosmic consciousness apprehension is at first more or less excited, the person doubting whether the new sense may not be a symptom or form of insanity. Mohammed was greatly alarmed. I think it is clear that Paul was . . . similarly affected.

The first thing each person asks himself upon experiencing the new sense is: Does what I see and feel represent reality or am I suffering from a delusion? The fact that the new experience seems even more real than the old teachings of simple and self-consciousness does not at first fully reassure him, because he knows 'the power of delusions'.

Simultaneously or instantly following the above sense and emotional experiences there comes to the person an intellectual illumination quite impossible to describe. Like a flash there is presented to his consciousness a clear conception (a vision) in outline of the meaning and drift of the universe. He does not come to believe merely; but he sees and knows that the cosmos, which to the self-conscious mind seems made up of dead matter, is in fact far otherwise - is in very truth a living presence. He sees that instead of men being, as it were, patches of life scattered through an infinite sea of non-living substance, they are in reality specks of relative death in an infinite ocean of life. He sees that the life which is in man is eternal, as all life is eternal; that the soul of man is as immortal as God is. . . .

The person who passes through this experience will learn . . . much that no study ever taught or can teach. Especially does he obtain such a conception of THE WHOLE, or at least of an immense WHOLE as dwarfs all conception, imagination or speculation . . . such a conception as makes the

old attempts to mentally grasp the universe and its meaning petty and ridiculous.

This expansion of the intellect enormously increases the capacity of acquiring and accumulating knowledge, as well as the capacity of initiative.

The history of the development and appearance of cosmic consciousness *in humanity* is exactly similar to the appearance of all individual mental faculties. When a new faculty appears, it will be found, in the beginning, in a few exceptional individuals. After a time it becomes more frequent; still later it becomes capable of being developed and acquired by all and, finally, becomes an attribute of all men from birth. Moreover rare, exceptional faculties, faculties of a *genius*, appear in man in his maturity, and at times even in old age. Becoming more common, more in the nature of 'talents', they begin to appear in younger men. Later, becoming 'abilities' they begin to appear even in children. And, finally, they become the common property of all from birth, and their absence is regarded as a defect.

Such is the *faculty of speech* (i.e. the faculty of forming concepts). Probably in the remote past, on the borderline of the appearance of human consciousness, this faculty belonged to only a few exceptional individuals and, very likely, began to manifest itself only in old age. Later it became more frequent and began to appear earlier. There probably was a period when *speech* was not an attribute of all men, just as artistic talents - the musical sense, the sense of colour and lines - do not now belong to all men. Gradually it became *possible* for all, and later inevitable and indispensable barring some physical defect.*

Comments on the quotations from Dr Bucke's book

I quoted Dr Bucke's opinion about the three coming revolutions, though I must say that I do not at all share his optimism regarding social life which, as he makes out, can and must change through material causes (conquest of the air and social revolution). The only possible basis for favourable changes in external life (if such changes are possible at all) can only be changes in the inner life, i.e. those changes which Dr Bucke calls the psychological revolution. This is the only thing that can create a better future for people. All cultural achievements in the domain of the material are double-edged and may equally serve either good or evil. Only a change in consciousness itself can be a guarantee that the abuse of powers given by culture will cease and culture will no longer be a 'growth of barbarism'. Demo-

* Dr R. M. Bucke, *Cosmic Consciousness*, Philadelphia, Innes & Sons, 1905, reprinted New York, Dutton, 1969.

cratic organization and the nominal rule of the majority guarantee nothing. On the contrary, even now, wherever they are put into practice - if only in name - they immediately produce, and promise to produce on a still larger scale in the future, violence, curtailment of individual rights and restriction of liberty.

2 Dr Bucke says that once human consciousness is attained, further evolution is inevitable. In assuming this Dr Bucke is making a mistake common to all people who dogmatize the idea of evolution. Having drawn a very correct sketch of the consecutive gradations of the observed forms of consciousness (of animal-vegetable, animal and man) Dr Bucke regards this gradation entirely in the light of the evolution of one form out of another, completely ignoring the possibility of other points of view. For example, he ignores the possibility that each of the existing forms may be a link in a *separate* evolutionary chain, i.e. that the evolutions of animal-vegetables, of animals and of man are different evolutions, follow different courses and do not pass one into another. This point of view is entirely justifiable if we take into consideration the fact that transitory forms are *never known* to us. Further, Dr Bucke makes an altogether arbitrary assumption concerning the *inevitability* of a further evolution of man. The unconscious evolution of the vegetable and animal kingdoms (i.e. unconscious for the individual, directed by the consciousness of the species) is no longer possible with the appearance of thinking in man. We must admit that human mind depends on itself much more than the mind of the animal. Human mind has much more power over itself and can help its own evolution, as well as *hinder* it. The general question is: can unconscious evolution be maintained with the appearance of thinking? It would be much more correct to think that the appearance of thinking abolishes the possibility of an unconscious evolution. Power over evolution passes from the spirit of the species (or from Nature) to the individual. Further evolution (if it takes place) can no longer be the result of primordial and unconscious causes, but will depend on *conscious efforts towards growth*. * This is the most interesting thing in the whole process, but Dr Bucke does not point it out. *A man* who does not strive towards evolution, who is not conscious of its possibility and is not helping it, will not evolve. And an individual who does not evolve does not remain in a static state, but goes down, *degenerates* (i.e. certain of his elements begin their own evolution, hostile to the

* See Chapter 10, quotation from Mabel Collins's book *The Story of the Year, a Record of Feast and Ceremonies by the author of 'Light on the Path'*, London, 1895, p. 63.

whole). This is a general law. And if we consider what a very small percentage of men think and are capable of thinking about their evolution (or of striving towards higher things), then we shall see that to talk of the inevitability of *that evolution is at least naive*.

3 Speaking of the formation of a higher faculty of perception and thinking, Dr Bucke leaves out one very important circumstance. He himself remarks previously that there takes place in the mind a blending of concepts with emotional elements, *the result of which* is a new understanding, and then cosmic consciousness. Thus it follows from his own words that cosmic consciousness is not merely a blending of concepts with emotional elements, or of ideas with feelings, but is *the result* of this blending. But Dr Bucke does not give this point sufficient attention, and, further on, regards the fundamental element of cosmic consciousness as the blending of percepts, receipts and concepts with elements belonging to emotional nature. This, however, is already wrong, because it is not simply a *blending of thought and feeling*, but *the result of blending*, or, in other words, it is — thought and feeling, *plus something else* that is not to be found either in the intellect or in the emotional nature.

But Dr Bucke regards the new faculties of understanding and feeling as the product of the *evolution of the existing faculties* and thus deprives all his deductions of value. Imagine that a scientist from another planet, who does not suspect the existence of *man*, studies a horse and its 'evolution' from a foal to a riding horse, and sees the highest degree of its evolution in a horse with a man on its back. From our point of view it is clear that it is impossible to regard the man in the saddle as a fact of *equine* evolution. But from the point of view of a scientist who does not know about man, it will be only logical. Dr Bucke is in exactly the same position when he takes as a fact of human evolution that which transcends the domain of the human. A man who possesses cosmic consciousness or approaches cosmic consciousness is no longer simply a man but a man plus something higher. Dr Bucke, as also in many instances Edward Carpenter, is hindered by a desire not to go too sharply against the usual accepted views (although that is inevitable); by a desire to reconcile the accepted views with the 'new thought', to smooth down contradictions, to reduce everything to one - which of course is as impossible as to reconcile the true and the false, the correct and the incorrect.

The greater part of Dr Bucke's book consists of examples and fragments from the teachings and writings of 'men of cosmic con-

sciousness' in the world's history. He draws parallels between those teachings and establishes the *unity* of the forms of transition into the new state of consciousness in men belonging to different centuries and peoples, and the unity of their sensations of the world and themselves, testifying more than anything else to the genuineness and reality of their experiences.

The founders of world religions, prophets, philosophers, poets -in Bucke's book these are 'men of cosmic consciousness'. He does not pretend to give a complete list, and one could certainly add many more names to it.*

But, after all, what is important is not the imperfections of Bucke's book, nor the amendments which could be made to it. The important thing is the general conclusion which Dr Bucke draws about the possibility and the nearness of the NEW CONSCIOUSNESS.

This tells us that NEW HUMANITY is near at hand. We build, without taking into account the fact that a NEW MASTER must come who may not approve at all of what we have built. Our 'social sciences', sociology, etc., have only *man* in view. Yet, as I have already pointed out many times, 'man' is a composite concept, including in itself different categories of men whose paths are completely different. And the future belongs not to *man* but to *superman*, who is already born and lives among us.

A higher race is rapidly arising from the bulk of humanity, and it is arising through its own peculiar, understanding of the world and of life.

It will truly be a HIGHER RACE - and there will be no possibility of any falsification, any substitution, any usurpation. Nor will it be possible for anything to be *bought*, nor *appropriated* by deceit or force. And not only is this race coming, but it is already here.

Men approaching the transition to this new race are already beginning to recognize one another; watchwords, signs and countersigns are already being established. . . . And maybe the social and political problems, so acutely thrust forward by our times, will be solved on quite a different plane and in a totally different manner than

* Dr Bucke makes a very grave mistake in speaking about self-consciousness. In his opinion 'simple consciousness' is a characteristic of an animal, and 'self-consciousness' a characteristic of man. But as a matter of fact a prolonged self-consciousness during sensing, feeling or thinking is a very rare phenomenon in man. As a rule what is called self-consciousness is simply a thought, and it takes place *post factum*. True self-consciousness exists in men only as a potentiality, and if it manifests at all, does so only at moments. These momentary flashes of self-consciousness should be distinguished from prolonged self-consciousness. Prolonged self-consciousness is already a new consciousness. It brings with it the possibility of moments of cosmic consciousness, which, in its turn, may with further development, become prolonged.

we think - namely, by the appearance on the stage of a new race, CONSCIOUS OF ITSELF, which will then judge the old race.

In my comments I pointed out certain defects of Dr Bucke's book, arising chiefly from a kind of irresolution, a fear to admit the paramount importance of *higher consciousness*. This fear lies at the basis of Dr Bucke's desire to view the future of humanity from the positivist standpoint, basing it on political and social revolutions. But this view has lost all value. In the bloody epoch we are now going through, the bankruptcy of materialism, i.e. of logical systems, in the organizing of life is becoming self-evident even to those people who only yesterday were extolling 'culture' and 'civilization'. It becomes increasingly clear that changes in the external life, i.e. changes in the life of the many, if they must come at all, will come *as a result* of inner changes in the few.

Further, taking Dr Bucke's book as a whole, we may say that, having assumed the *natural growth* of consciousness, he does not notice the fact that the unfolding of these faculties is not a natural process, but that it requires conscious work. Dr Bucke does not mention at all any conscious efforts in this direction, does not speak of the idea of the *culture of cosmic consciousness*. Yet there exists a whole series of psychological teachings (occultism, yoga and so on) and a voluminous literature, having in view precisely this systematic culture of higher consciousness. Dr Bucke does not seem to notice this, although he himself touches upon it several times, and continues to take his stand on the idea of natural growth. At one point in his book he speaks very contemptuously about the use of narcotics for the creation of ecstatic states, not taking into consideration the fact that narcotics cannot *give* a man anything he has not already got (which explains the totally different effect of narcotics on different people). All they can do, in certain cases, is to *reveal* that which is already in a man's soul. This circumstance completely alters the view of narcotics, as Professor James has shown in his book *The Varieties of Religious Experience*.

On the whole, carried away by the evolutionary point of view and fixing his eyes on the *future*, Dr Bucke, like many others, does not pay sufficient attention to the *present*. Yet the new consciousness which a man may find or awaken *in himself* is naturally more important for him than the consciousness which may or may not appear *in other men* thousands of years hence.

Examining from different standpoints the complex forms of the

manifestation of spirit, and analysing the views and opinions of different thinkers, we are constantly confronted with what seems to be gradual phases or consecutive stages of development. And we find that these stages or phases are four in number. Examining further the living world known to us, from the lowest living organism to man, we see the simultaneous existence of all the four forms of consciousness, to which all the other aspects of inner life correspond: space-sense, time-sense, form of activity, and so on. Further, examining the *higher type of man* we see in him the presence of all the four forms of consciousness which exist in living nature, with corresponding forms.

Forms of consciousness *'Higher type of man' Living world*

Latent consciousness, similar to our instincts and subconscious feelings.	Cells, groups of cells, plants and lower animals; organs and parts of the body of higher animals and	Cells, groups of cells, tissues and organs of the body.
Simple consciousness and flashes of thought.	Animals possessing complex organisms. Absence of awareness of death.	Body, instinct, appetites, voices of the body. Emotions.
Thinking, moments of self-consciousness and flashes of cosmic consciousness.	Man. Awareness of death, or fantastic theories of immortality.	Simple emotions and logical reason.
Self-consciousness and beginning of cosmic consciousness.	Higher type of man. Beginning of immortality.	Higher emotions, higher intellect, mystical knowledge.

The simultaneous existence of all the four forms of consciousness at once, both in nature and in the higher type of man renders the exclusively evolutionary point of view too strained and artificial. The evolutionary point of view is often simply a refusal to face a difficult problem, a desire to avoid thinking too much. This is the reason why the evolutionary point of view is often applied where there is no need of it whatever. Very often it is a compromise of thought. Not understanding the existing variety of forms and their interconnections, and not knowing how to think of it all *as a unity*, people seize upon the evolutionary view and regard the variety of forms as an ascending

ladder. This view is, of course, derived not from real facts but from the desire at all costs to systematize what they observe, be it even on entirely artificial grounds. People think that if they construe a system, they already know something. But in reality absence of a system is very often nearer to true knowledge than an artificial system.

'Evolutionists' who are incapable of understanding the whole, without representing it to themselves as a chain, each link of which is derived from another link, are like the blind men in an Eastern tale who feel an elephant from different sides and assert, one that the elephant is like pillars, another that he is like a thick rope, and so on. Only, evolutionists add to this that the elephant's trunk must have *evolved* from his legs, the ears from the trunk, and so on. But, after all, we know that all this is - *an elephant, i.e.* one single being, unknown to the blind men. Just such a single being is the living world. And with regard to forms of consciousness, it is much more correct to regard them not as consecutive stages, nor as phases of evolution, distinct from one another, but as different sides or pans of one *whole*, which we do not know.

In 'man' this unity is self-evident. All the forms of consciousness can exist in him simultaneously: the life of the cells and the organs with their consciousnesses; the life of the whole body, taken as one; the life of emotions and logical reason, and the life of higher forms of consciousness.

The higher form of consciousness is necessary for the organization of life on earth, as we are already beginning to see. For a long time, under the rule of materialism and positivist thought, people forgot or distorted religious ideas and thought it possible to live by logical reason alone. But now, little by little, it becomes evident to those who have eyes to see, that people, left to the mercy of logical reasoning only, are incapable of organizing their life on earth, and if they do not finally exterminate one another as did some Polynesian tribes, they will at any rate create (and have already created) utterly impossible conditions of life in which everything gained will be lost, i.e. everything that was given them by men of self-consciousness and of cosmic consciousness.

The living world of nature (including man) is analogous to man, and it is much more convenient and correct to regard the different forms of consciousness in the different parts and strata of living nature not as separate and evolving from one another, but as belonging to *one organism* and fulfilling functions which, although different, are interconnected. In that case the necessity for all naive theorizing on the

subject of evolution disappears. After all, we do not regard the organs and limbs of a man's body as evolved one from another *in a given individual*, and we must do the same with relation to the organs and limbs of the body of living nature.

I do not deny the law of evolution; but it means something quite different. And its application for the purpose of explaining many phenomena of life stands in need of drastic corrections.

First of all, even if we accept the idea of one general evolution, we still have to bear in mind that the types lagging behind, the remnants of evolution, may not continue *the same evolution* at a slow pace in the rear, but may start their own evolution, in many cases developing precisely those properties for which they were thrown out of the main evolution.

Second, in accepting the law of evolution, there is no need to regard all existing forms as derived one from another. It would be much more correct, in such cases, to regard them all as the *higher types* in *their own* evolution. The absence of transitory forms renders this view much more likely than the view which is usually accepted and which provides such rich material for dissertations on the obligatory and inevitable perfection of everything - perfection from *our* point of view.

The views outlined here, and the idea of the living world as *one* organism, are naturally more difficult than the ordinary evolutionary point of view. But one should try to overcome this difficulty. I have already said that the real world is bound to be illogical from an ordinary point of view, and can never be plain and simple to all and sundry. The theory of evolution requires many amendments and needs to be expanded and amplified. If we take the existing forms on any one plane, it is utterly impossible to assert that all these forms have evolved from the simplest forms on that plane. Some will no doubt have evolved from the lower forms; others will have resulted from the degeneration of higher forms; a third category will have formed from the remnants of some evolved form - and a fourth resulted from infiltration into that plane of properties and characteristics of a higher plane. In this case these complex forms cannot be regarded as the product of evolution taking place on the original plane.

The table appended on pages 282-4 will show more clearly the correlation of the different forms of manifestation of consciousness, or of different states of consciousness.

First form. A sense of one-dimensional space in relation to the external world. Everything takes place, as it were, on one line.

Table of the four forms of the manifestation of consciousness

<i>First form</i>	<i>Second form</i>	<i>Third form</i>	<i>Fourth form</i>
<p><i>Sense of space and time.</i> Sense of one-dimensional space. The world on a line. The line as space. Every thing else as time. Every thing not lying on this line is in motion.</p>	<p>Sense of two-dimensional space. The world on a plane. The plane as space. All the rest as time. Angles and curves as movements.</p>	<p>Sense of three-dimensional space. The world in an infinite sphere. The <i>sphere</i> as space. <i>All the rest</i> as time. Phenomena as movements. <i>Non-existence</i> of 'past' and 'future'. A becoming and changing universe.</p>	<p>Sense of four-dimensional space. Spatial sense of time.</p>
<p><i>Psychology</i> Appearance of the first sensation. One sensation. Its division into two. Gradual evolution of sensations and the accumulation of memories of them.</p>	<p>Representation. Expression of sensations by cries, sounds, movements. Absence of words and speech. If there is speech, it consists of proper names only.</p>	<p>Concept. Words. Judgment. Inference. Thinking. Speech. Written language. Allegory. Emotions.</p>	<p>Expansion of concepts. Higher emotions. Self-consciousness. New sensations. Cosmic consciousness.</p>
<p><i>Logic</i> Absence of thinking or <i>confused</i> thinking of the 2nd form.</p>	<p>This is this. That is that. This is not that. Rudiments of logic. The logic of the singleness of each separate thing.</p>	<p>A is A. A is not not-A. Each thing is either A or not A. Dualistic logic. The logic of contrapositions. Syllogism.</p>	<p>A is both A and not A. <i>Tat twam asi: Thou art that.</i> Tertium Organum.' Logic of the unity of all.</p>
<p><i>Mathematics</i> Absence of counting or <i>confused</i> counting of the 2nd form. quantity. <i>Count-</i></p>	<p>Comparison of <i>separate</i> visible objects or of <i>separate</i> representations. Direct sense of <i>ing</i> within the limits of this sense.</p>	<p>Every magnitude is equal to itself. A part is smaller than the whole, etc. Finite and constant numbers. Euclidean geometry.</p>	<p>A magnitude can be not equal to itself. A pan can be equal to the whole, etc. Mathematics of infinite and variable magnitudes. Meta-geometry.</p>

Table of the four forms of the manifestation of consciousness - *contd.*

<i>First form</i>	<i>Second form</i>	<i>Third form</i>	<i>Fourth form</i>
<p><i>Kinds of Reflex.</i> actions Unconscious responsive action to external irritation.</p>	<p>Instinct. 'Emotional' and expedient action, without consciousness of result. Seem ing conscious ness. Inability to use a lever.</p>	<p>Lever. <i>Possibility of being conscious of results.</i> The cause of actions - in the outer world, in im pressions received from the outer world. Impossibility of independent actions without impulses coming from outside.</p>	<p>Beginning of conscious actions. Beginning of actions with the understanding of their cosmic meaning and purpose. Beginning of independent actions <i>proceeding from oneself.</i> MAGIC.</p>
<p><i>Morality</i> Unconscious actions (like the actions of a sleeping man).</p>	<p>The beginning of the maternal, family and tribal instincts. Morality as the law of the life of the <i>species</i> and as a condition of evolution. Unconscious submission to the spirit of the species, manifesting through instincts.</p>	<p>Logical and conventional division of good and evil. Submission to the group consciousnesses of family, clan, tribe, nation, humanity, class, party, etc.</p>	<p>Return to the law within oneself. <i>New conscience.</i> Emancipation from the submission to group consciousnesses. Consciousness of oneself as an independent unit.</p>
<p><i>Forms of Potential consciousness</i> consciousness. Consciousness in a latent state. Sleep. Consciousness as in a dreamless sleep.</p>	<p>'Simple consciousness.' 'It hurts.' But the impossibility of saying: I am conscious that it hurts me.' Reflected state of consciousness. Dreaming. Passive state of consciousness.</p>	<p>Ability to think of one's states of consciousness. Division of 'I' and not-'I'. Active consciousness. <i>The moment when further evolution can only be conscious.</i></p>	<p>Beginning of self-consciousness. Ecstatic states. Transitions to cosmic consciousness.</p>

Table of the four forms of the manifestation of consciousness - *contd.*

<i>First form</i>	<i>Second form</i>	<i>Third form</i>	<i>Fourth form</i>
<p><i>Forms of knowledge</i> 'traces' of produced reflexes. Appearance of instinct and accumulation of simple instincts.</p> <p>spirit. The</p>	<p>Personal knowledge. Impossibility of communicating experience. The beginning of the communication of experience in the education of the young.</p>	<p>Positivist science and philosophy. Materialism. Spiritualistic philosophy. Dogmatic religions. Spiritism and pseudo-occultism. Sectarianism. Dualism. Matter and</p> <p>division of different forms of knowledge.</p>	<p>Idealistic philosophy. Mathematics of the infinite, Tertium Organum', Mystical religion. God and the World are one. One Spirit. The sense of a living and conscious universe. Union of all branches of knowledge into one. Under standing of 'Dharma', i.e. of laws of relativity.</p>
<p><i>Different beings</i> Lower animal. Cells, tissues and organs of the body. One-dimensional being. <i>Vegetable or semi-vegetable life.</i></p>	<p>Higher animal. The human body. Two-dimensional being. Absence of duality, disunion and disharmony. <i>Animal life.</i></p>	<p>Man. Inner disunion. The impossibility of attaining inner harmony. 'The soul' as the battlefield of the 'spirit' and the 'flesh'. Unconscious automatism. Absence of personal immortality.</p>	<p>Beginning of the transition to a new type and a new sense of space. Victory of consciousness. 'Men of cosmic consciousness.' Triumph of the super-personal element. Conscious automatism. Attainment of inner unity and harmony. The soul as the centre of independent actions. Beginning of personal immortality.</p>

Sensations are not differentiated. Consciousness is immersed in itself, in its work of feeding, assimilating and digesting food, and so on. This is the state of the cell, groups of cells, tissues and organs of an animal's body, of plants and lower organisms. In a man this is the 'instinctive mind'.

Second form. A sense of two-dimensional space. This is the state of an animal. What is for us the third dimension is for it - motion. It already senses and feels, but does not think. Everything it sees seems to it equally real. The world for it is full of non-existent, illusory motion. Emotional life and flashes of thought in man.

Third form. A sense of three-dimensional space. Logical thinking. A philosophical division of 'I' and 'Not I'. Dogmatic religions and dualistic spiritualism. Codified morality. Division of spirit and matter. Positivist science. Idea of evolution. Mechanical universe. Understanding of cosmic ideas as metaphors. 'Historical materialism', imperialism, socialism, and so on. Subjugation of the individual to society and law. Automatism. Death as the exhaustion of personality. Intellect and flashes of self-consciousness.

Fourth form. Beginning of the understanding of four-dimensional space. New conception of time. Possibility of more prolonged self-consciousness. Flashes of cosmic consciousness. The idea, and at times the sensation, of a living universe. Striving towards the miraculous and a sense of the infinite. Beginning of volitional self-consciousness and flashes of cosmic consciousness.

Thus the third form embraces that 'man' who is studied by positivist science. And the fourth form refers to 'man' who is already beginning to pass out of the field of vision of positivism and logical understanding.

Evolution or culture

The most important and most interesting questions which arise when we examine the idea of cosmic consciousness reduce themselves to the following: (1) Is the appearance of cosmic consciousness a matter for other generations in the remote future, i.e. must cosmic consciousness only come into being as a result of the process of evolution after centuries and millenniums, and will it then become common property or the property of the majority? and (2) Can cosmic consciousness appear *now* in modern man, i.e. even in very few men, as a

result of a certain education and self-education which will help to open up in man forces and faculties dormant in him; in other words, can it come as a result of a certain *culture*?

It seems to me that in this connection we may dwell on the following propositions: The possibility of the appearance or development of cosmic consciousness belongs only to the few. But even in the case of those men in whom cosmic consciousness can manifest itself, this manifestation requires certain very definite conditions, both inner and outer, a certain *culture*, the education in man of elements akin to cosmic consciousness and the abolition of elements hostile to it. In other words cosmic consciousness cannot be created in a man who does not possess the rudiments of it. But even in a man who has this potentiality, it may be developed or, on the contrary, not developed, but stifled and destroyed.

The distinguishing signs of men in whom cosmic consciousness may manifest are not studied at all. The first of these signs is a constant, or frequent, sensation that the world is not at all what it seems, that the principal and most important things in it are not at all those things which are regarded as of principal importance. Then there follows from this a sense of the unreality of the world and all its relationships, and a striving towards the 'miraculous' which, in this case, is sensed as the only thing real and true.

High mental culture, high intellectual achievements are not in the least an indispensable condition. Examples of many *saints* who were often not in the least intellectual men, but who nevertheless undoubtedly achieved cosmic consciousness, show that cosmic consciousness may develop on a purely emotional basis, i.e. in that case on the basis of religious emotion. In the same way cosmic consciousness may be achieved through creative emotions - in the case of painters, musicians, poets. In its highest manifestations art is a way to cosmic consciousness.

But equally in all cases the opening up of cosmic consciousness demands a corresponding *culture*, a corresponding life. In all the examples given by Bucke, in all the examples that could be added, one cannot find a single case where cosmic consciousness opened up in conditions of inner life opposed to it, i.e. at moments of absorption in *external* life with its struggle, its interests and its emotions. For the appearance of cosmic consciousness it is necessary that the centre of gravity of *the whole* of man should be in self-consciousness and not in the sense of the external.

If we imagine Dr Bucke himself being in conditions quite different from those in which he was at the moment of the manifestation of

cosmic consciousness, in all probability his illumination would not have come at all.

He passed the evening reading poetry in the company of men of a high intellectual and emotional development and was returning home full of the thoughts and emotions of that evening.

But if, instead of this he had spent the evening playing cards in the company of men of everyday interests and everyday conversation, or at a political meeting; or if he had spent it standing at his lathe in a factory on a nightshirt; or if he had been busy writing a newspaper leader in which he did not believe himself and no one else would believe, one can say for certain that no manifestation of cosmic consciousness would have come to him, for it undoubtedly requires a very high degree of *freedom* and concentration on the inner world.

This conclusion concerning the necessity of a special culture and definite inner and outer conditions does not at all mean that cosmic consciousness can manifest *in any man* placed in appropriate conditions. There are people - probably the overwhelming majority of modern humanity - who are totally devoid of this possibility. And if this possibility is lacking, it cannot be created by any amount of culture, just as no amount of culture can make an animal speak in the human tongue. The possibility of manifestation of cosmic consciousness cannot be artificially grafted. A man is born with it or without it. This possibility may be suppressed or developed, but it cannot be created.

Not everyone can learn to distinguish the true from the false. But even those who may have this ability will not get it as a free gift. It is the result of great labour, great work, demanding daring both in thought and feeling.

CONCLUSION

In conclusion I would like to mention the wonderful and mysterious words of the Apocalypse and the apostle Paul's Epistle to the Ephesians which are put as the epigraph to this book.

The Apocalyptic Angel swears that THERE SHALL BE TIME NO LONGER.

We do not know what the author of the Apocalypse meant, but we do know those STATES OF THE SPIRIT, when time disappears. We know that it is precisely in this, in the *change of the time-sense* that the beginning of the fourth form of consciousness is expressed, the beginning of the transition to COSMIC CONSCIOUSNESS.

This and similar phrases give us a glimpse of the profound philosophical content of the Gospel teaching. And the understanding of the fact that the MYSTERY OF TIME is the FIRST mystery to be revealed, is the first step towards the development of cosmic consciousness by intellectual means.

What was the meaning of this Apocalyptic phrase? Did it have the meaning we can attribute to it now - or was it simply an artistic rhetorical figure of speech, a chord accidentally sounded and continuing to sound for us through centuries and millenniums with such wonderfully strong and true tones? - we do not know, and we shall never know. But the words are beautiful. And we can accept them as a symbol of a remote and inaccessible truth.

The apostle Paul's words are still more strange, still more striking in their *mathematical* exactness. (These words were pointed out to me in a book by A. Dobrotoluboff, *From the Invisible Book*. The author sees in them a direct indication of the 'fourth measurement of space'.)

Indeed, what can it mean?

That ye, being rooted and grounded in *love* may be able to comprehend with all *saints* what is the BREADTH and LENGTH and DEPTH and HEIGHT:

First of all what does the comprehension of *breadth* and *length* and *depth* and *height* mean? What could it be but the *comprehension of space*? And we know already that the comprehension of the mysteries of space is the beginning of higher comprehension.

The apostle says that those 'rooted and grounded in *love*' will comprehend with all *saints what space is*.

The question arises here: why should *love* give comprehension? That *love* leads to *sanctity* is clear. Love as the apostle Paul understands it (Chapter 13 of the First Epistle to the Corinthians) is the highest of all emotions, the *synthesis*, the merging together of all higher emotions. There can be no doubt that it leads to *sanctity*. *Sanctity* is the state of the spirit freed from the *duality* of man with its eternal disharmony of soul and body. In the language of the apostle Paul *sanctity* means even a little less than in our present language. He called all members of his church *saints*. In his language being a saint meant being righteous, moral, religious. We say that this is only the *way to sanctity*. Sanctity is something different - something *attained*. But no matter whether we take it in his language or ours, *sanctity* is a superhuman quality. In the sphere of morality it corresponds to *genius* in the sphere of intellect. *Love is the way to sanctity*.

But the apostle Paul connects *sanctity* with KNOWLEDGE. The saints *comprehend* what is the breadth and length and depth and height; and he says that all - through love - can *comprehend* this with them. But what are they to comprehend? COMPREHEND SPACE. Because 'breadth and length and depth and height', translated into our language of shorter definitions, means *space*.

And this last is strangest of all.

How could the apostle Paul know and *think* that sanctity gives a new understanding of *space*? We *know that it should give it*, but HOW could he know this?

None of his contemporaries connected the ideas of comprehension of space with sanctity. And there was as yet no question of 'space' at that time, at least not among the Romans and Greeks. Only now, *after Kant* and after having had access to the treasure-house of Eastern thought, we understand that it is impossible to pass to a new degree of consciousness without an expansion of the space-sense.

But is this what the apostle Paul wanted to say - that strange man, a Roman official, persecutor of early Christianity who became its preacher, philosopher, mystic, a man who 'saw God', a daring reformer and moralist of his time, who fought for the 'spirit' against the 'letter' and who was certainly not responsible for the fact that later he himself was understood not in the 'spirit' but in the 'letter'. What did he want to say? - We do not know.

But let us look at these words of the Apocalypse and the Epistles from the point of view of our ordinary 'positivist thinking' which at times graciously consents to admit the 'metaphorical meaning' of mysticism. What shall we see?

WE SHALL SEE NOTHING.

The glimpse of *mystery*, revealed for a moment, will immediately vanish. It will be nothing but words without any meaning, with nothing in them to attract our weary attention which will flicker over them as it flickers over everything else. Indifferently we will turn the page and indifferently close the book.

Yes, an interesting metaphor. But nothing more! And we do not realize that we rob ourselves, deprive our life of all beauty, all mystery, all meaning, and then wonder why we are so bored and disgusted, why we have no wish to live; we do not see that we understand nothing around us; that brute force or deceit and falsification always win, and we have nothing with which to oppose them.

THE METHOD IS NO GOOD.

In its time 'positivism' came as something refreshing, sober, healthy and *progressive*, blazing new trails for thought.

After the sentimental constructions of naive dualism it certainly was a big step forward. Positivism became a symbol of the *progress of thought*.

But now we see that it inevitably leads to *materialism*. And in this form it arrests thought. From being revolutionary, persecuted, anarchistic, free-thinking, positivism has become the basis of official science. It wears a uniform. Decorations have been bestowed upon it. Universities and academies have been placed at its disposal. It is recognized. It teaches. It rules over thought.

But, having attained prosperity and success, positivism put an obstacle to the further development of thought. A Chinese wall of 'positivist' sciences and methods confronts free investigation. Everything rising above this wall is declared to be 'unscientific'.

And in this form positivism, which before was a symbol of progress, has become *conservative, reactionary*.

In the realm of thought the *existing order* has become established, and struggle against it is already declared a crime.

With surprising rapidity principles which only yesterday were the highest expression of radicalism in the realm of thought, are becoming props for opportunism in ideas, serve as blind-alleys arresting the progress of thought. Before our very eyes this is happening to the idea of evolution, upon which it is now possible to build anything one wants, and with the help of which one can refute everything.

But free thought cannot be confined within any limits.

The true *motion* which lies at the basis of everything is the *motion of thought*. True *energy* is the *energy of consciousness*. And *truth* itself is motion and can never come to rest, to the end of seeking.

EVERYTHING THAT ARRESTS THE MOVEMENT OF THOUGHT IS FALSE.

Consequently the *real*, true progress of thought exists only in the widest possible striving towards knowledge, a striving which does not admit the possibility of resting on any forms of knowledge already *found*. The meaning of life lies in eternal seeking, and *only by seeking* shall we ever find new reality.