

Invading the Invisible

By JAMES ARTHUR EDGERTON

Here is the latest word in Philosophy. The new factors in science are brought together and given a spiritual interpretation and meaning. Relativity, the psychic sciences, the subconscious mind, evolution, the new physics and the new mathematics are brought under the light and made to tell their story.

The secret of the lever and gravitation are laid bare. Gravitation, the fourth dimension and the "warp" of space-time are made plain. Metaphysics, mysticism and the absolute are brought into the circle of our common knowledge. The mystery of time, energy and motion is revealed. The secret of Hermes and Pythagoras, of Plato and Plotinus is explained and it is shown how the new discoveries of science confirm the visions of the ancient seers.

By the Same Author:

THE PHILOSOPHY OF JESUS

VOICES OF THE MORNING

GLIMPSES OF THE REAL

THE STORY OF NEW THOUGHT

AN ADVENTURE IN TRUTH

IN THE GARDENS OF GOD

SONGS OF THE PEOPLE

OUR HIDDEN FRIEND

THE SONG OF THE MORNING STARS

Invading the Invisible

By

JAMES ARTHUR EDGERTON



THE NEW AGE PRESS

74 IRVING PLACE, NEW YORK

NATIONAL PRESS BLDG., WASHINGTON, D. C.

Copyright, 1931,
THE NEW AGE PRESS

CONTENTS

CHAPTER	PAGE
PREFACE - - - - - -	7
I. INTRODUCTION - - - - -	11
II. PHILOSOPHICAL IDEALISM - - -	29
III. THE ABSOLUTE - - - - -	46
IV. MYSTICISM - - - - -	61
V. THE EXTRA CONSCIOUS MIND - -	76
VI. PURPOSIVE EVOLUTION - - -	95
VII. THE NEW PHYSICAL THEORY - -	122
VIII. RELATIVITY - - - - -	145
IX. PSYCHICAL RESEARCH - - - -	164
X. METAPSYCHICS - - - - -	195
XI. PSYCHOTHERAPY - - - - -	214
XII. THE NEW PSYCHOLOGY - - -	241
XIII. THE PHILOSOPHY OF VALUES - -	261
XIV. A NEW SYNTHESIS - - - -	278
XV. AFTERTHOUGHTS - - - - -	301
XVI. PRACTICAL IDEALISM - - - -	325
XVII. CONCLUSION - - - - -	348

PREFACE

THIS series of lessons has been given in substance in half a dozen cities in the United States and Canada, and in parts elsewhere. The talks were all extemporaneous, but those delivered to a private class in Washington were taken in shorthand and many of the chapters put into shape from these notes. The corrections and writing of other chapters were done in Florida, where there were no books available, so that citations to references had subsequently to be made in footnotes.

Philosophy is rather difficult for the average reader, for which reason the simple and conversational style of the talks has been retained so far as possible. Metaphysics is a closed book to most, and I have long felt that the subject should be stated more plainly and made accessible to more people. This work may seem to lack finish and polish for that reason, yet it is hoped that it may at least contain suggestions not entirely devoid of value or interest to trained philosophers as well as to other seekers after truth.

The general plan of the book is an inquiry into and a new synthesis of the recent discoveries of science that have a bearing on philosophy. I am aware that other and abler writers have already done this work for certain of the

sciences, but no one, so far as I can discover, has sought to cover the whole field. Among others may be mentioned A. S. Eddington, who confines himself largely to physics and relativity; John S. Haldane whose two books on the sciences and philosophy embrace most admirably biology and physiology, but reject outright certain factors of the new psychology and psychic phenomena and reach a conclusion with regard to immortality that I do not believe justified by all the facts that science has brought to light; and John Dewey, who has confined himself chiefly to what I would call instrumentalism or the empirical method in philosophy. Acknowledgment is made to all of these and others, especially to Dr. Gustave Geley, whose book, *From the Unconscious to the Conscious*, comes more nearly to embracing the whole field of what I may call the psychic sciences and evolution, but does not so fully deal with the new physics.

The Positivist Philosophy of Auguste Comte of the early Nineteenth Century in a way embraced this same field of the special sciences and on this basis evolved a religion of humanity. No further reference is made to Comte, however, for two reasons: First, because the special sciences have vastly changed since his day, none of the new factors dealt with in this book then having been discovered, and second, because his whole treatment of the subject was in an almost dogmatically rationalistic and intellectualist vein. I explain later why this method is not only anti-religious but is one-sided and does not

reach true results from a philosophical standpoint.

May I add that in this work I have sought only for truth and have endeavored to eliminate all personal bias so far as I was conscious of possessing such. If I have seemed unfriendly to materialism, mechanism and kindred trends of modern thought, it is because I believe them not only to have been refuted by science itself, but to be unwholesome in their effects on the public mind. If a tree may be judged by its fruits, that tree is not good, and this, on pragmatic grounds, at least, may be regarded as a further proof that it does not grow in the soil of Truth.

J. A. E.

CHAPTER I

INTRODUCTION

PHILOSOPHIES have made civilizations. Stated in another way, each civilization has developed its own philosophy that expressed its basic and fundamental character, and, because formulated, tended to fix and perpetuate it. Perhaps there is an element of truth in both views. The philosophy and the civilization are concomitant. They grow up together. They are not so much cause and effect, whichever we place as the antecedent term, as they are both products of some deeper and more fundamental cause or causes in which might be distinguished such elements as religion, historical background, environment, racial characteristics, language, economic conditions, the spirit of the times, science and invention and the like. Yet the force of the opening statement is not diminished by these considerations, for while philosophy may be the product of these and other factors, it in turn sums them up and incorporates them for future ages. It unites, synthesizes and gives them system and meaning. It becomes the spirit of the civilization, its idea, or, to use a musical term, its underlying *motif*.

Some rather striking illustrations of the influence of philosophy on civilization occur readily to mind. In China Confucianism may be called the national philosophy, for I think it is universally recognized that Confucianism is not so much a religion as a system of philosophy, especially of ethical philosophy. One of the prominent features of the teachings of Confucius and of Chinese life and religion generally is ancestor worship. An obvious effect of such a system is to beget reverence for the past, to turn men's faces to the past and thus to create fixed concepts and a static or unprogressive civilization. Exactly that has happened in China. For many thousands of years, and until the recent influx of Western ideas, the Chinese civilization practically stood still, or at least its progress was vastly retarded by this very attitude of mind.

In India there was a somewhat analogous situation, except that here it was not ancestor-worship but a belief in reincarnation that was the chief factor in the national philosophy and religion. In a way each one became his own ancestor, but the net result was the same. The tendency of this universally held view was to turn people's thoughts to the past, and in consequence India was as unprogressive as China. Here are, perhaps, the two oldest cultures now on earth. Nothing could more forcibly bring home to us the effect of fixed concepts and of a static philosophy and religion than that afforded by these two great groups, and, indeed, by all the peoples of the Far East, who have been for

the most part under the domination of similar ideas.

What is here said should not be interpreted as being antagonistic to a proper reverence for the past or to the truth of the doctrine of re-embodiment, or reincarnation. A belief in the last named idea is, perhaps, more widespread than any other single religious tenet now held on earth, aside from faith in God and the immortality of the soul. During recent years this doctrine is invading the West. It was held by Pythagoras and Plato and by at least some of the early Christian Fathers. There are seeming references to it in the New Testament. It was at least sympathetically regarded by some modern philosophers, a sympathy that is shared by the writer. There are many things to commend it, yet if dwelt upon unduly, the tendency of such an idea would be in the direction above pointed out, to turn men's thoughts backward. All I am trying to stress here is the influence of fixed concepts and of such systems of philosophy on civilization.*

* Perhaps there is something of a tendency in the same direction in what are known as the classics, especially Latin and Greek. During the Middle Ages, learning was confined largely to such studies and to fixed religious and kindred concepts, and these ages were correspondingly unprogressive. What little science existed was taken on the word of the ancients, especially Aristotle. If it was desired to prove that water runs down hill, it did not occur to scholars of that time to go out and observe a stream, but rather learned citations were made of authorities who had written on the subject.

It may be countered that the Renaissance was the beginning of the modern progressive age and, at the same time, that it was a revival of the learning of Greece and Rome, but the Renaissance contained other elements, such as a revolt against the fixed concepts of that day, as it also included the beginnings of science.

A rather striking proof of the view here advanced is found in the example of Descartes, the founder of modern philosophy, and Bacon, the generally reputed initiator of the scientific method. Both broke with the past, especially with Scholasticism, and started anew. The same was true of Kant in abandoning dogmatic philosophy.

In this connection, it may not be without interest to refer to the ideas of one writer, perhaps it is Bergson* on the rather striking similarity between biological and sociological processes, or between natural and human history. He refers to the effort to obtain security. Every species endeavors to protect itself and the devices for protection are almost as widely diversified as life itself. In one case it will be a coloration that will either deceive the enemies of its possessor or will so blend with the environment as to make it invisible. In another it will be fleet heels or swift wings. In still another it will consist in "playing dead," like the opossum; and again it will be an armor, or hard shell, such as worn by alligators, tortoises, snails and all manner of shell-fish. It is to this last method of safeguarding life that the writer mentioned particularly refers. In his opinion it exacts a rather high price, that is, protection is gained at the expense of further evolution and progress. The species obtains security, it is true, but becomes fixed or stationary in its hard shell or armor-plate, while other more venturesome species, willing to take a chance, and to protect themselves by their ability to run away, to disappear into burrows, or to fight back, go on with their evolutionary development. The alligators and tortoises are among the few life forms that have survived from the old reptilian age. They obtained security at the price of progress. He then points out human civilizations that have

* I have been unable to locate this in the works of M. Bergson, but my memory is very definite of the passage itself.

followed an analogous course, mentioning especially China and her famous protecting wall.

Returning to the influence of philosophy on the course of human development, I have referred in another book* to the striking ways in which Christianity and Mohammedanism have affected the institutions and history of the nations enrolled under their respective banners, also to the remarkable progress of the Christian world following the Reformation, which, more signally still, was most marked in those nations adopting the new or reformed faith. The tendency of the Reformation, as well as of the Renaissance, and the Age of Enlightenment that were approximately contemporaneous with it, was to break up fixed concepts and to free the human spirit for further adventures in the seeking of truth and for advancement generally. This tendency was still further accentuated by the Age of Revolutions that followed closely after, which had the added effect of shattering the fixed ideas in the realm of politics as the others had already done in the spheres of religion and science. It must be understood in this connection that I do not use the terms religion and philosophy interchangeably but the two overlap and what is here said of the influence of the one on human civilization and progress applies almost equally to the other. It has been said that, "As a man thinketh in his heart, so is he," and it is equally true that as nations and civilizations think in their collective hearts, so are they. It should

* *The Philosophy of Jesus*, Christopher, Boston, 1928.

also be said, perhaps, at this point, that the tendency of religious faith is to fix men's concepts in unchangeable creeds and dogmas. There is something sacred about religious concepts. Churches in every age and form of worship have naturally cried, "Hands off," to all and sundry scientists and investigators generally who would put profane hands on these more or less static articles of belief. There is a conserving value in this attitude, for the highest human ideals cannot be held lightly, or the house of man's faith be builded on the shifting sands, but on the other hand too conservative an attitude, too blind a devotion to tradition and too static concepts, even if they be termed sacred, result in exactly what has happened in China and India, i.e., stop the clock of human progress for countless ages.

It is evident that the nations of the West, at least, will not stand still, and this is the hope of the world. It is likewise evident that they are just now in a state of revolution both in their philosophy and religion. The fixed concepts of the past have been so broken up by science and by the new needs and viewpoints of modern life that they must be recast or replaced by more adequate ideas and ideals that will satisfy the most enlightened as well as the masses, for it is true now as always that what the most enlightened believe today, the masses will believe tomorrow.

Man is naturally religious, just as he is generally at heart something of a philosopher, so

that he will always have a religion and a metaphysics. His mind and heart are so constituted that he cannot do without them. So long as he has wonder in his heart, so long as he has curiosity, so long as he asks as to the why of things, so long as his heart thirsts for higher and more durable values, for the ineffable and the perfect, so long as he seeks God and immortality, for help and solace, for ethical and aesthetic satisfactions, for insight and understanding into the mysteries and meanings of life, so long will religion and philosophy have a place in his mind. These things have a pragmatic value, and that, according to William James, constitutes an inferential and moral proof of their truth. But what is the religion of the future to be? I have already expressed the view in the work mentioned that the teachings of Jesus will remain as its basis, but that they must be freed from the myths and theological dogmas that have encumbered and misinterpreted them. Then, too, there are fundamental concepts that are common to all religions and that have endured longer than history, such as a belief in a universal Father, in a spiritual universe, in hierarchies of spiritual or angelic intelligences that somehow influence for good the races of men, in the survival of the soul after death, in the advantage of a moral life here on earth, in the efficacy of faith and prayer both for our welfare here and hereafter, in the sovereign value of righteousness and good will and in the brotherhood of man. These and other like ideals are

held by all religions and these will surely remain as among the fundamental elements of the religion of the future.

There are those who are convinced, however, that the more definite and specific articles of the new faith will be derived from science. This is where philosophy comes into the picture for it is philosophy alone that can unite the special sciences and extract from them their highest and most general truth and meaning. Then, too, science and religion are in conflict and will doubtless remain in conflict until the materialistic element is eliminated from science and the mythological and dogmatic factors disappear from religion. Philosophy alone can harmonize these differences, for its peculiar province is to gather diverse elements into the unity of a higher synthesis.

Novalis said something to the effect that philosophy bakes no bread but does reveal to us God and immortality, and a greater than he stated that man does not live by bread alone but by every word that proceeds out of the mouth of God. As already remarked, philosophy and religion overlap. A system of philosophy has taken the place of religion in China. The teachings of Buddha were largely philosophical and these today serve as a religion for a large section of the human race. Christianity itself contains a philosophical element for there is a philosophy in the teachings of Jesus, just as there is in the Fourth Gospel and in the Pauline epistles. Christianity absorbed much of the Platonic phil-

osophy and something of the Stoical, although there is a joy and regenerative power in the religion of Christ that Stoicism never knew.

As pointed out elsewhere in these pages, a philosophical struggle during the scholastic period of the Middle Ages had a profound effect in initiating and giving direction to modern progress. Then, too, many of the modern cults such as Christian Science, New Thought, Spiritualism and Theosophy, which will have their own contributions to make to the faith of the future, have a basis in metaphysics.

It is for these and other reasons that a new philosophical synthesis is so needed in the present transitional era. It is obvious that the correct method of arriving at such a synthesis is to gather together the materials furnished by the special sciences, especially in the last hundred years. That is the method followed in this book. Not all of the sciences are drawn upon for results that have a meaning for philosophy. Chemistry and astronomy, for example, while they have made signal progress during this period, are not dealt with in a separate way but are included under the new physics and relativity.

These new factors, as they may be termed, fall under four general headings: Evolution; the Subconscious, or Extra-Conscious Mind; the New Physical Theory; and Einstein's Relativity, with minor subdivisions such as Psychic Phenomena, Psychotherapy and the New Psychology generally. There is also a new development in philosophy itself which has a place. It has been

called by various names such as Pragmatism, Humanism, Instrumentalism, etc., but may be summed up under the general heading of the Philosophy of Values.

A further word should be said as to method. While I confine myself to science and philosophy as developed and generally accepted in the West, I do not limit this work exclusively to the intellectual method. One of Kant's great contributions was in pointing out the boundaries of reason and its inability to deal with the noumenon or "the thing in itself." This he did in his Critique of Pure Reason and in his famous antinomies. Our intellects are dependent on the senses which only report appearances and react to a comparatively few of the possible stimuli in the universe, also color and add their own subjective elements to what they see. Likewise the intellect looks on the part through analysis and arrives at its results by a rather cumbersome and inexact method of induction. There is a more universal and spiritual kind of mind action which Bergson and other philosophers call intuition and which religious people refer to as faith. This is the method used almost exclusively by the Hindoos, and while it has its own defects, the ideal way would be a combination of intellect and intuition, the reasons for which are brought out more fully in later chapters. Perhaps the intuitive methods are used by scientists themselves more than they suspect. They take a lot of things on faith, as we all do, and that necessarily. The new psychology of the

subconscious is throwing light on this rather obscure subject and is showing the importance of the deductive as well as the inductive reason, of intuition as well as intellect. It should be said at this point, however, that long study, training and preparation are necessary to get the best results from even the intuitive process. The mind must be made ready and attuned to the reception of truth, just as a musician or artist must be perfected in his technique before harmony or beauty finds him a fitting instrument through which to express. Then the results come more or less spontaneously, just as a novelist, after his characters are once created, discovers that they act for themselves, or men in any line or calling find that in the heat of creative work they often surpass or transcend themselves and do their best work, they know not exactly how. To beget the child, Truth, there must be a marriage of Intellect and Intuition, a union of Reason and Faith.

One word further. In the same way that those who use intellectual methods exclusively need the intuitive, so those who depend on what they call the spiritual need a deeper groundwork of science and philosophy. This applies especially to some of the new spiritual cults already mentioned. They are based on metaphysics but they require a more thorough knowledge and training in their fundamentals and especially do they need the scientific spirit, with its love of accuracy and its loyalty to truth above any preconceptions or favorite theories. Too many followers

of all such movements are prone to jump to conclusions, to run off at tangents, to claim more than they perform and to put forth notions that are perhaps inelegantly but aptly described as "half-baked." We owe a tremendous debt to Science. It has made over our modern human world; and its work has only started. H. G. Wells has expressed the opinion that in the coming centuries it will turn its attention inward rather than outward and that it will make as great progress in discovering the finer forces within man as it has already made in revealing the outer forces of the environment; that, instead of building machines, it will build men and women.* That is a program in which all spiritual people are interested and with the accomplishment of which they should co-operate.

Then, too, we should follow our own science and philosophy here in the Western nations. I have as high a respect as any for the Oriental and especially for the Hindoo teachings, and rejoice at the growing interest with which they are regarded in the West. They have elements we need, such as meditation and spirituality; but, after all, they are not our teachings; they belong to a widely different culture; they are too introspective and dreamy and contain too much of a negative element, too much of a side-stepping of life from some non-being in Nirvana, rather than facing life and making the best of it; in a word are too unprogressive ever to make any widespread or permanent appeal to the prac-

* I am told that the great electrician, Steinmetz, expressed a similar view.

tical and energetic races of the Occident. Furthermore our own sciences and philosophy have all for which we are seeking, if we follow them far enough and get at their deeper meanings and values. It is, perhaps, true that we are becoming more and more cosmopolitan and that hereafter we shall deal in terms of the whole world rather than of particular nations or even of particular civilizations or cultures, and that more and more we are to have world religions and world philosophies as well as world politics. If that be true, perhaps our future system will be something of a fusion of both the East and the West. Even so, it will be reached by a slow process and each civilization will follow its own evolutionary line to attain this more general and universal system; and it is also probably true that then, as now, the progressive West will dominate the world-scene.

Some one has said that philosophy is its history, or rather that we cannot know philosophy until we know its history; so that as a fitting close of this introductory chapter we should give a recapitulation, necessarily brief, a sort of bird's-eye view, of the history of philosophy up to the last century. It should also be said that the contributions of each philosophy, as of each individual philosopher, so far as they are generally accepted, become incorporated in the thought of the race; and thus that our whole body of philosophy has had a composite origin. Emerson said that when he read books of different great men they all seemed to have been

written by the same author. This is peculiarly true of philosophy for in it, necessarily, each writer has to transcend the self, the particular, and to think universal thoughts. As Kepler said, he "thinks God's thoughts after Him." In this sense, philosophy is from one author, the Divine Mind thinking in us. So the recapitulation of its history is something like the embryo recapitulating, in its organism, the history of the race from which it springs and all the accepted features of which have been incorporated in its own body.

Philosophy comes from Greece. The word itself is Greek and means love of wisdom. There is not space here even to mention the names before the time of Socrates, but the evident effort from the beginning was to find a unifying principle or element. With Pythagoras it was number; with others it was air, or fire, or water, until finally one called it *nous*, by which he meant spirit. One discovered the underlying principle in love and hate, attraction and repulsion. Another saw change as the dominant feature of the cosmos while still another took exactly the opposite view that change is only seeming, the one reality being the fixed and immutable Absolute. These various views seem conflicting yet each from its own angle represented an aspect of truth or an attempt at truth and all were caught up into the composite of that wonderful thing called Greek philosophy. The golden age of Socrates, Plato and Aristotle will be dealt with in the next chapter.

In the succeeding centuries there was rather a dearth of great names, the two schools known as the Sceptics and the Cynics occupying the stage. Perhaps these were not so bad as their names, but they left little mark on Philosophy as a whole, which is all we are concerned with here. Then arose the two great schools of the Epicureans and the Stoics, that represented two divergent tendencies of thought which were to remain throughout the long history of the Roman empire and even unto our own day.

The schools at Alexandria were dominated for the most part by Platonism and Neoplatonism and contained much of the religious and mystical element. It was here that Philo came and here probably Hermes Trismegistus flourished, that wonderful figure of whom so little is known but who was so Christian in his spirit and fundamental teachings although it is not probable that he was ever actually associated with the church. Of him we shall have much to say in future chapters, also of Plotinus, the "new Plato," and chief light of the new Platonic group.

At about this time the main stream of philosophic history passed into the church where it remained for a thousand years. The two great outstanding names of Christian philosophers were Augustine at the beginning of that millenium and Thomas Aquinas near its end. These two were much alike in their thought, although Augustine of the "Confessions" and the "City of God," wrote much in the spirit of Plato, while

Aquinas, "the angelic Doctor" and "the angel of the schools," leaned more to Aristotle. In the interim the center of the world's culture had shifted from Greece, Rome and Egypt to the new and rising civilization of Western Europe.

Several centuries again pass. Scholasticism is on the wane and the "new learning" is starting in Europe. It was then that modern philosophy was born from the brain of Rene Descartes, who turned his back on the past and initiated not only a new philosophy and at least one branch of a new mathematics, but a new method as well. He doubted everything that could be doubted and reduced knowledge to its lowest fundamental valid term—"I think, therefore I am"—and on that cornerstone he built his system. Shortly after Descartes came two names equally illustrious, Spinoza and Leibnitz, both of whom also followed the mathematical method, and one of whom, at least, Leibnitz, introduced a new branch in mathematics, although he shared the fame for this with Sir Isaac Newton. We shall have many references to Leibnitz' monads. It was his optimistic philosophy that inspired Pope's "Essay on Man." It was Leibnitz also who said that "This is the best possible universe, else God would have made a better," as it was he likewise who made the searching rejoinder to John Locke, who had said that "There is nothing in the intellect which was not previously in the senses," to which Leibnitz appended: "There is nothing in the intellect which was not previously in the senses, except the in-

tellect itself," a difference which may seem slight at first glance, but grows as we think of it—becomes so big in fact that it might have served as the basis for Kant's whole critical philosophy. There are other illustrious names we cannot omit—Lord Bacon in England, who founded the inductive philosophy and modern science, George Berkeley the idealist and charming writer and David Hume, whose scepticism aroused Immanuel Kant into action; and with Kant we come to the German idealists, with whom we deal later.

While the idea is a bit fanciful, and is not insisted on, there is an interesting fact about the appearance of at least three of the great groups in this history. In each case there is an initial figure, followed by an idealist, counter-balanced by a materialist and then a final figure, who sums up, gathers together and harmonizes these two antitheses. In the Greek group Socrates was the initiator, followed by Plato, the idealist, and Democritus, the materialist — although Democritus was not of the immediate Socratic group—and Aristotle as the summer up. In the Cartesian group, it was Descartes himself who was the founder, Spinoza, the idealist, Locke, the materialist, and Leibnitz who summed up, not only for these but harmonized with the old Scholastic philosophy as well. In the case of the Germans, Kant was the forerunner, Fichte, the subjective idealist, Schelling the objective idealist, and Hegel the summer-up, Hegel whose peculiar style has made him so difficult to under-

stand that his work has suffered an eclipse it did not deserve. It took one thousand years for the world to understand Aristotle and it may require several centuries for it to understand Hegel, but when it does understand him it will realize that his "Philosophy of the Absolute" comes as near to deserving that august title as the history of Philosophy has ever known. He was not only the adequate summer-up of the old philosophy but, in a sense, the prophet of the new.

In the next chapter we will go more into detail in examining the certain features of that old philosophy which concern our particular inquiry.

CHAPTER II

PHILOSOPHICAL IDEALISM

BEFORE considering the new factors in philosophy, it will be necessary to get our background, and our next three chapters will be devoted to that task. All philosophy as we know it in the Occident goes back to Socrates, as reported, elaborated and idealized by Plato, whose special contribution has become known as philosophical idealism. This was passed on to us by the Neoplatonists with Plotinus at their head and by the church fathers, especially Augustine. For it is a fact of fundamental importance that this idealistic philosophy became the basis not only of very much of modern philosophy but was in a large sense the background of our religion, of Christianity itself.

In modern times the outstanding figures in this same general group are Leibnitz, Berkeley and the German idealistic school running from Kant to Hegel, the greatest school that has appeared on earth since the days of ancient Greece.

There are several aspects, but two especially, of what is known as philosophical idealism. First, there is the aspect that man can only know his own ideas. There is no way that he can get outside of his mind to verify these. He

must take the reports brought to him by the senses. We do not know how the sensori stimuli create images. What actually happens, is that there is some stimulus given to the sense organs. In the case of sight, it is supposed to be a wave motion in the ether. This wave motion sets up certain movements in turn in the eye, in the liquid matter that constitutes the eye, which acts on what is known as the retina and that again acts on the ends of certain nerves. These nerves pass back to the brain, and affect some brain cell or collection of brain cells. How this stimulus, however, is translated into sight of the familiar world, we do not understand. It may be by an analogous process to the way that sound waves are changed into electrical values in radio. These are transmitted speedily, almost as speedily as light, through the ether, and at the station where they are picked up are translated back again into sound waves, amplified and heard through the receiving set. In the same way pictures are sent by television. This may be the method, or something analogous to it, by which we see. It is absolutely sure, however, that the mere wave motion in whatever medium transmits the light impulses, could not in itself create vision. There must be in the mind some imaging faculty that is so stimulated by these symbols or suggestions as to build the picture. Now, that is all we see of the outer universe as far as the sense of sight is concerned. We react to this stimulus from the outside and our imaging faculty builds the pic-

ture and clothes it on with color and meaning.

That is one aspect of idealism. Growing out of this phase, it has been the contention of the idealistic philosophers throughout the ages that all thought knows is thought; that, in the very nature of things it could only know thought. To know anything as alien to it as we have imagined matter to be creates a difficulty that cannot be surmounted, because matter has been supposed to be exactly the opposite of thought. How, then, can thought take hold of it, to know a thing utterly foreign to itself? Thought can only behold what it puts into matter—relation, quality, appearance, function, meaning, use. But we can carry this further.

We discover for example, that what we call color is merely a certain rate of vibration. The colors depend directly on the reaction of the mind. In other words, the mind creates color, it takes one rate of vibration, which it translates into the thought that the color is red. Another set of vibrations a little higher it translates into the thought that the color is blue and still another, that the color is violet, and so on. That is so evident that colors have been called secondary qualities while light itself has been thought primary. A little analysis will show, however, that light is on exactly the same footing as color. Light is a frequency in the transmitting medium, call it ether or what we will, and it is the mind that clothes the rate of frequency or vibration with the qualities that we know as luminosity.

There are only certain very narrow bands of frequency to which we react at all. Light is a certain series of vibratory rates in what is supposed to be the ether of space, while sound is another narrow band of vibratory rates in what we call ordinary matter, such as air, water or whatever the transmitting medium may be. There is a certain reaction of nerve termini that the mind interprets as light, still another as sound, taste, smell and the like. That is all we know of this wonderful thing called sensation.

Take the sense of touch. When I put my hand on the table, I seem to be touching a hard board, but as a matter of fact science knows that what happens is that the energies in my hand contact the energies of the electrons, molecules, etc., that go to make up the table and the resistance of the one set of energies cannot be penetrated by the other set of energies.

I have often given the illustration, that a modern radio instrument is analogous to our own sense organs. I may have a receiving set in this room. There are all sorts of messages passing through the room from the different stations in this and other cities; but each of these messages is at a different vibration frequency. I can select out of these the particular message I want to hear by tuning in my instrument to the same frequency or wave length as that of the station to which I wish to listen. All the other messages are there, too, but I do not react to them. Well, in exactly the same way there are all sorts

of vibrations passing through the ether, not only in the range we call light and lower down in the range we call sound but in between these and above them there are other ranges to which we do not react at all. If I had the same equipment for tuning in my mind to a different frequency, I would get a different message exactly as on the radio. Now it happens, we do have precisely the same thing in the case of the X-ray. It is a higher frequency. There is a considerable gap between light and the X-ray but we, by electrical means, are enabled to tune in the eye to this higher frequency. We see a different world, our color values disappear, what was opaque becomes transparent, we look through our clothing and flesh and see our hearts beat. We tune into a different frequency and all the universe is changed.

There are other bands of frequencies that exist in the ether of space or whatever the medium is that transmits light, electricity, gravitation and energy generally. They ascend all the way to the cosmical rays of Prof. Millikan that are supposed to be involved in the building or destruction of atoms. Indeed, the latest supposition is that the ether is not only the basis of the physical universe as we know it, but is, perhaps, the plastic medium that thought moulds and operates, the nexus between matter and spirit. However that may be, what we call light is a composite of ether vibrations and our reactions thereto. Man is an active participant in the process. He is not merely a passive instrument.

Through the kind of sense organs he possesses man not only sees a particular kind of world but this world is different for every different individual that sees it. I have no way of visualizing your world. Relatively you use the same terms for what you see that I do for what I see. We assume that they are approximately the same, but that they are not identically the same is shown by individuals who are color blind. They do not know their defect until it is pointed out to them because they are familiar only with their own reactions as we are with ours. In the human, the color responses are apparently a late development as it is generally supposed that it is only in recent ages that men have seen colors in the detail that we see them. It is fairly certain that all animals do not see color. Thus the earth varies with the observer. To a mole it is a place to dig holes in. Being blind his reactions are entirely different from those of a bug, for example. We do not know much about the psychology of moles and bugs but there must be some reaction because there is a perception of environment and an adaptation to environment due to the perception. There is an infinite scale of these reactions. Even in the lowest grades of life there is evidence of some form of perception and adaptation. Thus each form of life sees a different world, depending on its organism, its senses and its practical needs.

The world I see I in part create. I color it and behold it relatively to the kind of sense organs developed in my particular organism. These

respond only to certain bands or ranges of vibrations. A being that responded to different ranges would see a different universe, very much as a radio tuned to a different wave-length transmits a different program.

I look on things from the outside and thus see only their appearances. I do not view them as they are infinitesimally but only in certain large aggregates. A very much smaller being, such as a microbe, would see them differently. I realize this when I look through a microscope, which corresponds with the microscopic eye of the animalculae. This reveals the relativity of my vision from another angle. It is thus I look upon what I call matter. It seems solid and opaque. Yet looked at differently, say with the super-microscope or the X-ray, it is neither. As for solidity, it is so porous that ether passes through it without hindrance; and modern physicists declare it is only a certain arrangement of electrons or electrical charges relatively as far apart as the planets. To the sense of sight it only offers certain light frequencies and to the sense of touch certain energy resistances. It is our minds that interpret these as solidity and opacity.

This brings us to another aspect of idealism, that of matter according to Berkeley. This good bishop has been greatly misunderstood. He did not say there is no matter in the sense usually ascribed to him. He merely said that abstraction is not real and the thing we call matter is an abstraction made by the mind. We have ab-

stracted certain qualities and appearances from the universe and applied a label, which we call matter. Now all that Bishop Berkeley questions is that there is any reality to that abstraction. He does not doubt the objects of sense but contends that what we see is real enough, such as the individual chair, house, etc.; but that there is this hypostatized or actualized abstraction out there, such as we term matter, he denies. Science denies that also. Science has gone far enough to discover that what we call matter is force organized in a certain way and that due to the motion and energy we get the resistances we interpret as sight and feeling.

There is one recent development in relation to light that has a bearing. Certain scientists are questioning the wave theory of light and are reviving the emission theory. Not only so, they are insisting on some sort of emission of matter, still dealing in that abstraction called matter in an inert form. The latest view is something in the nature of a combination of the wave and emission theories. Now, as a matter of fact, if the emission theory be correct, it is an emission of energy. That idea would fit in readily with the wave motion. For example, apply energy to water with an oar and we start a wave. Apply energy to liquid or gas and we start some sort of vibration. Thus not only does this combination of emission and wave frequency seem logical but as a matter of fact that is the only way motion can be started. It is perfectly simple from that viewpoint.

The quantum theory of light is this: The orbits of the electrons in the atom, which is supposed to be made up like a miniature solar system, change by definite jumps. With added energy applied to the atom, such as heat, the electrons jump to a higher orbit and in so doing emit energy to the surrounding medium and that is the basis of light. I see nothing inharmonious in this theory with that I have already proposed.

There is a second phase of the idealistic philosophy, and now we come to the peculiar contribution of Plato. It is this. Plato found certain general characteristics. In fact, his whole philosophy was a movement from the particular to the general, thence to the more general and finally to the ultimate and absolute through this same logical or generalizing process. It is like the steps of a ladder. We climb from one generalization to a higher. This is known as the dialectical method brought us by Plato and elaborated by Hegel. In a manner somewhat analogous, the species binds together the individuals, the genus, the species. Thus all horses are classified under the species of horse; this belongs to a higher classification of pachyderms; these in turn to mammals; all are generalized as vertebrates; these belong to animals, etc. There is an ever-ascending series, bound together by more and more general similarities. Thus the concept is born, designated in language by the common noun. Through all runs the idea, the general purpose. There must be in the universe somewhere archetypes, that is, there is an ideal

man or an ideal of man. I recently read a Hindoo writer who said that man had been latent and promised from the beginning of evolution; that we find some of his features and characteristics cropping out here and there all along the evolutionary path. It is something like a theme in music. In Wagner we find a phrase hinted and then later suggested a little more until finally the full theme flowers out in a burst of melody. So with life, we perceive it advancing from stage to stage until at last man emerges and says, "I AM." In saying that he utters the name of God. That which was involved becomes evolved. The divine idea has found a voice.

Plato supposed there is a pattern somewhere in the cosmos, or in the mind back of it, somewhat as a human builder makes a specification or blue print of a building he is going to erect. Plato's ideas or archetypes were something like final causes. In the mouth of Aristotle, who studied under him, they became entelechies, or realizations. A thing is only known in its final purpose, or reason of being. Plato and Aristotle differed sharply at many points, but were alike in this. They saw design throughout nature. Thought was at work in the universe. Through all things ran the idea. It manifested in form and function. It was specialized and differentiated in the individual; but the individuals were generalized into classes; and the highest generalization was God.

The idealist has recently entered the field of psychology. Benedetto Croce finds two forms of

mind action; first perception. I perceive an individual thing, then other individuals. These are particular. I relate them to each other, see the difference or likeness and begin to classify, to discover relations and qualities and gather them into a concept, that is, I generalize or universalize them. So Mr. Croce says, there are these two modes of knowing, first perception and second conception, or generalized perception.

The same process is applied to the realm of the will or to mind in action. First it does things particularly, to get food or for gratification of some desire or appetite. That is for the individual. We generalize by acting for the family, the nation, or for a cause, and that is ethics. He makes the four products of mind action first, perception of individual things, that is beauty; when we generalize in the concept, that is truth; when we act for individual needs, that is use; and when we generalize this into action for others, it becomes good. Thus we have as the four products of mind action—beauty, truth, use and good. He left out one method of mind action, however, feeling or emotion, the generalization of which is religion.

Throughout the Middle Ages, the war over Platonic idealism raged. It is very interesting the form it took. Some may think this unimportant but I call attention to the fact that modern civilization grew out of it. The struggle was over this question: Does a common noun stand for a thing or is it a mere convenience of human speech? That divided two schools of thought

for five hundred years and is still dividing them. The realists held that common nouns represent actual entities. The nominalists on the other hand contended that these classifications are merely human inventions for the convenience of human speech and human thought; that the only thing which exists is the individual. The nominalists won out, at least in part, and in so doing laid the ground work for inductive science, for theological scepticism which resulted in the Reformation and for modern democracy. May I mention in this connection another school, for the distinction here is not only a matter of words but of concepts. This other school was known as the conceptualists. The contention of the conceptualists was that there is the idea which is an entity in the intellegible universe, and that is the basis of idealism.

In a way these three schools have always been in existence. In Greece the idealists were represented by Plato, the nominalists, or materialists, by Democritus and the conceptualists by Aristotle. The idealists said that the general is before the particular, the materialists that the general comes after the particular, but Aristotle took a middle ground by stating that the general is in the particular. The two cannot be separated. They are concomitant and accompany each other. The only reason we try to separate them is our habit of abstracting. We are ever trying to abstract, to take things away from their settings, dividing the part from the whole. After that we classify and build up these ab-

stractions into entities. Berkeley wars against cutting out the abstraction called matter and then apostatizing it into an entity. The part has no reality away from the whole. The abstraction is only for thought. It may give us a clue to reality but is not to be considered as anything in and for itself apart from that from which it is abstracted. It only belongs to its idea, or rather it is only a phase of something else. What we call matter is only a phase of the whole universe. It is a function or mode of manifestation. It is the objective side of spirit, a medium through which spirit acts. If we really understood this we should be on the road to overcoming the chasm between idealism and materialism.

The idealistic philosophy means more than this, however. We come to Hegel in our next chapter. He suggested a solution of this whole question in one of his familiar dialectical triads. You know the method of taking the one pole and its opposite. The two together give us a meaning that does not belong to either pole alone. We find this polarity not only in things but in thought. We cannot think without it. This gives rise to the Hegelian thesis, antithesis and synthesis, that is, the opposites gathered together into unity and meaning.

Hegel posited the universal and the particular. These are the two poles. Now gather them together and what have we? The universalized particular. What is that? The individual. If we think of any individual thing in the universe,

we find it contains these two elements. It is particular, that is, this thing. At the same time it is a part of the universe just as the drop of water is part of the ocean. If we know any part of the universe all in all, we know the whole universe.

Now we have the universal-individual. Each one of us represents the universe from his viewpoint, but he only manifests so much of it as he knows, comprehends, appreciates, uses. Whenever I hear anybody talking about the Christ in him, I often wonder how much does he manifest, how much of the thought is he living, how much of the truth of Christ is he incarnating.

Leibnitz said that each monad represents the universe from its viewpoint, but represents it with more or less confusion. A great deal of our thought is confusion and the whole process of knowing is to clarify and organize it into a living truth. If we could bring our knowledge of matter to its full meaning, it would be spirit. It is matter only so long as there is confusion about it.

There is yet another aspect to idealism. The ideal is dynamic. There is nothing so powerful in this universe, nothing that can so galvanize the soul into action, as a great ideal. Jesus transcended others because of His ideals. They were an inward spring of healing, protection and power. They were regenerative. They represented the creative and renewing force of the thought of God, for He was in touch with the

Divine, He had the divine ideal that he reflected in His whole life, His whole being.

Our ideals have a moral value also. It is to them and because of them that we aspire, and we condemn ourselves because we fall short of them. In this aspect they constitute our conscience. There is an element of sin in our failure to live up to these ideals concerning which we are our own judges. We alone see that failure perfectly and so in the last analysis our own higher thoughts judge us and the judgment is inerrantly true. We can have no such a strict mentor as the self judging the self. And from that judgment we cannot escape. Our own ideals judge us. The universal within us sets up a standard of perfection. It reveals to us what we ought to be. The microcosm is a universe in itself. It may be latent, it may be potential, but it is all there. God is in us because God is in the cosmos. That is the vision of the mystic. It was the natural outgrowth of Plato's idealism.

To sum up, there are two aspects of idealism. We do not directly know objective things, but only our reactions from sensori stimuli. There are but small bands of frequencies that affect us at all. One narrow band we call sound, another light. Numerous gaps between these and beyond are unknown, or known imperfectly. The senses are apparently designed for practical purposes. They tell us nothing of the ultimate. There is no way we can get out of ourselves to verify and discover what Kant called "the thing in itself."

We have taken some steps toward verification, however, through reason, intuition and what is known as "instrumentalism." This will be dealt with in later chapters.

Another aspect of idealism, which is peculiarly associated with the name of Plato grows out of generalization. The popular concept is that there are ideal archetypes or patterns, such as an abstract man or an abstract horse, and that individuals are approximations toward this ideal, each one representing the perfect pattern more or less inadequately. This concept furnished the battleground throughout the Middle Ages between what were known as the Realists and the Nominalists, the first contending that a common noun stands for a thing; the second, that it is only a convenience of human speech. The Conceptionalists were a later phase of the realists. This struggle laid the ground work for modern civilization. Modern science will have something to show with regard to archetypal patterns. The latest light on the subject seems to indicate that there is an archetype of each individual which is unfolding and progressive, and that the general ideal is subsumed, or rather incorporated, in an individual soul or dynamo-psychism.

Modern Idealism has given us such names as Leibnitz, Berkeley, Kant, and Hegel, whose philosophy elaborates that of Plato. Hegel's dialectic of the universal, the particular, and the individual throws a new light on old problems.

The idealism of Jesus is a regenerative force.

The ideal in its relation to moral life is man's conscience and final judge.

Idealism is a dynamic power in the individual and in the race.

CHAPTER III

THE ABSOLUTE

THROUGHOUT the world of life the individual develops by feeding on that which is outside itself. It is thus that the plant grows, or the animal. In the acorn is the germ, or potentiality of the oak. It does not actualize, or realize, this potentiality until it assimilates from its environment the materials to fill out and bring into form its latent possibilities. The same is true of the animal, of the horse, for example. The germ contains the archetype, the specification, but this must be evolved through feeding on that which is outside, which is taken into its body, organized and made a part of itself. A similar process occurs in man, and strangely enough, not only in man's body, but in man's mind. The ego grows through absorbing the non-ego. Just as we take food into the body, so there is outside of us what we call food for thought. We become conscious and grow in consciousness by feeding on our environment, by gaining and assimilating new knowledge, new ideas. We grow by contacting and knowing our other.

This process goes on throughout nature. The proton assimilates its other, its negative, the electron. Chemical combinations result from the

attraction and adherence of complementary elements. The same method is observed throughout the world of living things. It appears on a higher level in the world of thought. As the oak tree is potentially and ideally in the acorn, so the universe is potentially and ideally in the ego. We realize or actualize this through knowledge, that is, by absorbing the non-ego into ourselves. We come to ourselves by knowing our other. To be conscious we must be conscious of something. Hegel calls nature the other of spirit. The ego and the non-ego are the two poles. They come together as consciousness. On a higher scale Spirit and Nature are the two poles, the union being universal consciousness, or God. Our ego is a child of God, an emanation; and at the spiritual pole, as we shall see in the next chapter, there can be endless emanations without lessening or diminishing the source. That is the nature of spirit. So in the ego there is a potential universe, corresponding to the actual universe without. It realizes itself through its other, by consuming or knowing its other.

Speaking of the monads of Leibnitz, H. Wildon Carr* says:

Take then my own existence. I am a monad, an active centre, an agent, the whole universe is mirrored into that centre, focussed there, and my activity consists of my perceptions, but only an infinitesimal portion of these are clear and distinct perceptions, the rest are massed together, confused, obscure and undiscerned. I am also self-conscious, aware of myself as perceiving. My monad, the monad which is me, is apperceptive. But then I am

* *The General Principle of Relativity* by H. Wildon Carr, Macmillan.

in relation to a body, my mind is a dominant monad, and it works in complete harmony with the body, and yet this body is totally different and distinct in its nature from the mind. What is it? It consists of monads but of inferior monads. They are infinite in number, for no principle exists which imposes a limitation on them, and yet each is individual, an active centre mirroring the universe from its own point of view.

Not only does the ego mirror the universe but corresponds to it and partakes of its quality. Since the universe knows itself as mind, the ego also knows it as mind, insofar as its ideas are clear.

Man's mind is ever seeking an absolute. In the realms of knowledge his quest is for certitude. In the arena of action, of morals and of life his ideal is perfection. The highest attribute he gives to God is that of immutability, the same yesterday, today and forever. He looks for absolute meaning, an absolute end, absolute good. However often frustrated in realizing his aspirations, he still pictures a perfect beauty, a perfect immortality, a perfect bliss.

What is it in us that impels us to these ultimate ideals which are never realized, at least insofar as our experience in this life is concerned? Perhaps some of the philosophers may give us a clue to the riddle, and at least if they do not answer the question, may suggest the reason that it is asked.

Plato led us from the particular to the universal, and it was in this realm of universals that he posited his ideals. In the contemplation of beauty he at first thought of a beautiful object,

such as a beautiful woman, and from this he widened the concept to beautiful objects in general, and from these led to the acme of abstract and ideal beauty, worship of beauty in and for itself. In the same way he drew our minds to the concept of universal good and made this the highest attribute.

Spinoza who was called by Novalis "the God-intoxicated man" sought God through a sort of mathematical reasoning and found Him in a universal concept of substance. Hegel carried this thought one step further and changed Spinoza's substance to subject, i. e., a self-knowing, self-acting entity. Benedetto Croce went still further and reversed our usual definitions of concrete and abstract. He made the world of mind concrete, while that of phenomena is abstract. He reached his result in this way: We know the mind as a whole. It is one thing—I, ego, the knower. The world of phenomena we only see fractionally and fragmentarily and then we look on it from the outside. In other words we see it in symbols, and to know it at all we have to abstract from it, i. e., cut it up, analyze it, and from our glimpses of particulars arrive at some more or less imperfect approximation of a complete concept.

Bergson questioned the human intellect itself and said that obviously it is a specialized form of mind designed for the creation of tools outside the organism. The lower forms of life have their implements in the organism, such as claws, teeth and the like. The bee has a very elaborate

set of tools in its hind legs. Man, however, requires tools that are not an organic part of himself that he can lay aside when not in use. To fabricate such tools he had to have a mind adapted to knowing solid matter out of which tools are fashioned. From tools to the machine is only a step, and from that to the intellectual concept of materialism and of nature as a gigantic machine, is a logical progress. Bergson says, however, that this special mode of mind action does not exhaust the ways of knowing and of mental activity. In the lower animals we find instinct, which in man becomes intuition. By means of intuition we know things from the inside as wholes rather than knowing them from the outside as parts.

Kant could not find a proof of God and immortality in the theoretical reason, but did discover such a proof in the moral or practical reason, because there he discovered this same longing for perfection, this same "categorical imperative" that erects a universal standard and judges the right or wrong of an individual action by this perfect criterion. Because man cannot realize this longing or aspiration of perfection in one life, there must be another; and because of this demand in the reason, the heart and the spirit of man for absolute meanings, values and realizations, there must be a perfect God both to instil such aspirations and to satisfy them.

With these glimpses of the meaning of the absolute that we gain from the philosophers,

perhaps we are somewhat better fitted to proceed with our quest. What do we mean by the absolute? Obviously it can be nothing belonging to the phenomenal universe in which everything is subject to change, is manifested in degrees and is contingent or accidental. What we mean by the term accidental is that any given thing might have been different without impairing the universe. In other words it is not a necessity. It makes no difference to the ongoing of the cosmos whether it rains today or next week, or whether I do this thing or something else. The universe would continue even if I were not here at all, or you, or this earth, or even our solar system. These are not necessary things in the sense of the absolute. Babylon was and is not. Mars may once have been a populous planet in which the whole theatre of life was enacted, culminating in man, or something similar to man. Such astronomical evidences as we are able to gain now, however, indicate that Mars has passed the stage of supporting an abundant life such as we know. There is too little air and water on that planet now to supply any elaborate flora and fauna, to say nothing of an extensive human civilization. Planets, therefore, with the whole of their life product, may come and go. From the standpoint of the absolute they are ephemeral things. They are not necessary. In the light of this and other facts, it is obvious that we cannot look for the absolute in the things of time and space, or in the world of appearances. We must seek else-

where, and there is no elsewhere to seek except in the world of pneumena, instead of phenomena, in the "thing in itself" that Kant talked about. Since the world of phenomena constitutes the whole visible universe, we must therefore seek in the invisible universe for our absolute, in other words in the world of mind or spirit. The old Hermetic philosophy may offer us a suggestion here. Its fundamental idea was that the law of polarity applies to everything from the highest to the lowest. This takes in the pairs of opposites—the positive and negative—day and night—winter and summer—man and woman—love and hatred—good and evil—light and darkness—life and death—spirit and matter. Carry it as far as you like. The primary principle of polarity is that what we can posit of one pole we cannot posit of the other. Thus if we say of the phenomenal world that it changes, we must posit of the other that it is changeless. If the one is temporary, the other is eternal. If material is bound, the spirit is free, etc. In other words, the absolute is not in the form world at all because form in its very nature alters. It is not even in an "Eternal City" like that seen by the Revelator, but is a matter of principles and ideals, the very ideals that Plato talked about. It is like reason. A thing that is reasonable in North America is reasonable in China. A thing that is reasonable in the first century is reasonable in the twenty-second. Or it is like conscience, which forever holds before us a categorical imperative, a uni-

versal standard which impels us to do right. I know there is a lot of confusion, intentional or otherwise, regarding this question of ethics and morals. We hear people say that what is right in one country is not right in another, and what is right in one age is different in another. But if we examine this closely we find that it is merely the content that changes and not the impulse or direction of conscience itself. What I mean is this. Our opinions of right may change with circumstances or education, but whatever it is we think to be right our conscience impels us to do that. It is like the form of reason that Kant mentions.* The content may vary but the rational forms remain constant. I suspect that men have deluded themselves a bit on this question of right and wrong. They have tried to "alibi" or explain away and thus to evade the dictates of this inner monitor, this voice of God in the soul we call conscience, but such evasions are neither scientific nor satisfactory. The voice of conscience is thus absolute, impelling us to do right. If our opinions as to what is right change, that has nothing to do with this absolute monitor, the conscience, which tells us to do that thing which we really think to be right, whatever it may be. Thus we are getting on solid ground and discover that these absolute qualities are spiritual and not material—righteousness, goodwill, truth, justice, duty, loving-kindness, good, ideal beauty, freedom, perfection, God. In the phenomenal world we get an

* It is objected that a baby does not develop a conscience, but neither does a baby exercise reason.

inkling of this absolute in law—the moral law, the law of nature—and that in the final analysis is the only absolute and permanent factor we discover in this outer universe of change and of becoming.

Hegel, who was the author of the “Philosophy of the Absolute,” had one principle that he often reiterated, “the rational is the real.” Thus he erected a universe of thought, or rather a universe that corresponds to the dialectic and logic of thought processes. He carried this method through ascending ladders of triads. These triads consist of thesis and antithesis, as the two poles, and of synthesis, as the unifying principle. Hegel started with his famous triad of being as the thesis, nothing, or non-being as the antithesis. The synthesis or unifying element or principle is becoming. The universe is becoming. Progress is a mode of becoming. Thus he laid the ground work for the whole evolutionary hypothesis. In the same way he dealt with the age-old battle between the particular and the universal that started with Plato and Aristotle and continued throughout the Middle Ages. Hegel summed it up in this wise: The universal is the thesis, the particular the antithesis and the unified synthesis is the individual, the idea being that the synthesis takes into itself both elements of the poles and unites them into one. In other words the individual becomes the universalized particular, the microcosm in the macrocosm, the whole quality of the ocean in one drop of sea water. If this philosophy of

Hegel is ever really understood, it will throw a new and revealing light on many of the problems that afflict humanity, especially those that afflict religion and philosophy. To Hegel, the absolute was indicated by the subject knowing its object, and thus knowing itself. In other words the triad here might be the ego, the non-ego, and consciousness, which is analogous to the positive and negative electrons joining to make the atom or the positive and negative poles constituting the magnet. We could follow out this triadic method almost to an infinite detail, as Hegel in fact did. For example, good-evil-moral responsibility; father-mother-child: the one-the many-unity; spirit-matter-life, the living universe; life-death-immortality. The whole universe is the only self-subsisting, self-acting thing, and we are self-acting only as we partake of the nature and quality of this universal reality. This is the God-in-man, "Christ in us, the hope of glory."

Some seek the absolute in immensity. They posit an infinite space and time, neither of which can be thought, or can only be thought negatively, as indicated by the form of the word itself. Infinite means not finite just as endless means without end, both of which are merely the negation of limitation. That is the nearest approach we can make to the absolute from an intellectual standpoint. Now, however, we have discovered that time and space are self-completing, or rather that what we think of as a boundless universe becomes an almost inconceivably great, self-con-

taining number of "island universes" like our own "milky way," all constituting a gigantic cell self-contained and self-completed through the three factors of space, time and the velocity of light, time being another space dimension, although our intellects fall short of its comprehension.

In this connection there are some factors in the materialistic astronomy that perhaps suggest the absolute by being something else. One of these is the negative and materialistic concept that the universe may run down, which in brief grows out of what is known as the second law of thermodynamics, which is that heat to give off energy must step down to a lower level, just as steam or water to give off energy must do the same thing. As the energy of the universe is largely in the form of heat, and as this heat is forever being radiated through space and is being used to perform work, it is therefore diminishing or stepping down to a latent form, and sometime the universe will run out of active heat and will become a cold, inert, lifeless mass. That is the theory. The only trouble with it is that these same materialistic scientists who hold it also deny creation, and therefore believe that the universe is without beginning. If that be true, then it has been in existence an infinite time and would already have run down. The conclusion is logical and inescapable. I suspect the difficulty with this whole proposition is that these materialistic scientists have not included all of the factors. In other words they are like

the college song of Noah who was "a grand old man," the rather irreverent doggerel running, "Old man Noah knew a thing or two," and "because he knew a thing or two, he thought he knew it all." May we hope that when our materialistic scientists know more they will know too much to make such dismal prophecies? Either time is not a factor, in this sense, or the universe is self-renewing. Perhaps the real truth of it is, "God is in His Heaven, all's right with the world."

Another of these astronomical, negative, materialistic theories makes our solar system the result of accident. It is to the effect that sometime in the remote ages past, another sun came wandering this way and got near enough to our own sun to pull out enough masses of the incandescent matter to form the planets, but that this may not have happened anywhere else in the universe. The trouble with this hypothesis would seem to be that if the wandering sun were strong enough in its attraction to pull these masses out of our own sun, it should have pulled them all the way, since the attraction of our sun would have been greatest when these planets were a part of its own body. After they were pulled out this attraction would have decreased as the square of the distance. Therefore the other sun would have carried them all the way to itself either to disappear in its own body or to become attendant bodies revolving around it as a center. Some of these materialistic scientists seem intent on ascribing everything to accident, evident-

ly for the purpose of getting away from design, or in other words in getting away from God.

Our whole idea of this spatial or materialistic infinite gets in the way of our realizing the absolute. Hegel calls it the "false infinite," and a few illustrations may indicate something of what the false element in the concept is. As a matter of fact we can no more think of the infinite than we can think of its opposite, nothing. We can think of the absence of any assignable thing, or of all assignable things, and yet our thoughts are of something. Our comprehension of the infinite is equally negative and meaningless, as I have already shown. Zeno gave us some famous paradoxes or impossible problems that may help to make this a little clearer. One of these was of Achilles and the tortoise. It was to the effect that if Achilles runs twice as fast as the tortoise and they are a certain distance apart, both running in the same direction, how long will it take Achilles to catch the tortoise? Let us say that they are a mile apart, which Achilles can run in ten minutes. While Achilles is running that mile, the tortoise has run half a mile, and while Achilles runs the half mile, the tortoise has run a quarter of a mile, and while Achilles runs the quarter of a mile, the tortoise runs an eighth of a mile, and so on. It is a true infinite series, according to the problem stated, and Achilles will never overtake the tortoise. As a matter of fact, however, he does overtake it in exactly twenty minutes. What happens is that this whole infinite series is taken

up and absorbed. It is an abstract or false infinite. I only suggest this to show that the absolute cannot be reached through pursuing the will-o-the-wisp of abstract infinities, or by cutting up the phenomenal universe of appearance and change. It can only be found at the other pole of spirit, of immutable laws and principles, of the invisible and ineffable kingdom of creative thought, of the being of Him who has been known in all religions and called by all names, but to His most devout worshippers is too pure and high for man's designation, and therefore is the Nameless.

This is the Absolute. There is none other. The difficulty with most of us is that our minds are so prone to think in terms of the material, that any mention of the Absolute means a fixed or static affair, a "frozen Absolute." This has no existence, except in death. Such a concept is of a dead universe. The only absolute is the whole mind and body of God, the whole idea and its manifestation, the fundamental and immutable principles of being, the Reality behind and through all that is, the living universe.

Hegel's largest triad takes something like the following form:

1. (Thesis). The pre-existing Absolute Idea of the Universe.
2. (Antithesis). Externalized into the world of Nature.
3. (Synthesis). Reappearing as mind or Nature conscious of itself.

In this process of taking our other into the self we return to the opening thought of this Chapter, that of consuming what is outside us, by which we come into complete realization of ourselves. It is thus the potential becomes actual, the latent is made active, the evolution or unfoldment appears in full manifestation in its final cause or end. This renders the life process clear and intelligible. It all comes from the Absolute Idea to which it returns. This it does by the subject or mind absorbing or knowing its object which is matter, and by this method it becomes a conscious entity or the full statement of itself. Through synthesis of the two opposite poles it returns into a higher unity. It is the conscious universe knowing itself.

CHAPTER IV

MYSTICISM

THIS chapter comes as an afterthought. It was not my original intention to include the subject of mysticism in the present book. My chief reason for the proposed omission was that the special sciences do not deal with mysticism, with the possible exception of psychology, and even psychologists generally explain it on physical or pathological grounds.

It was on request of a member of the class that the subject was, after all, included. I now see that it belongs, for it serves to illustrate the difference between the scientific and philosophical viewpoint. Science is description; philosophy is explanation. Science deals with the *how* of things; philosophy with the *why*. Science thus looks on the material phase of the universe, but philosophy must also include the spiritual; and every philosophy that has failed to do this has broken down. Science cannot deal with mysticism for the subject is beyond its pale, but philosophy not only can, but must, do so.

The failure of both science and philosophy to solve the problems of the world has been chiefly due to their omission of the spiritual from their equations, their perverse blindness, I was about

to say, to the spiritual. It would be strange, indeed, if we were to find polarity, the pairs of opposites, throughout nature, and should not find them at the very top of the scale in the two opposite poles of spirit and matter. But that is precisely the viewpoint that science, or rather some of the special scientists, appear to assume. They have a right to ignore the spiritual, perhaps, for they are necessarily dealing with the material aspect of things, but they have no right to deny. In that they are going beyond their province. In fact, much of the confusion in modern thought is due to the attempt to explain the universe in terms of some one special science. In an earlier day it was physics, and a mistaken form of physics, at that. Just now it is biology, and an accidentalist biology, as we shall see later. Each special science belongs to its own field, but should keep out of the general field and should not seek to explain the universe according to its own pet hobbies or in line with glimpses through its own particular peephole at reality. When it does that there is trouble. We can only explain life, consciousness, freedom and the like through inclusion of the spiritual. That is the reason why mysticism belongs here, for mysticism is a direct approach to spirit. Yet it has also a scientific phase.

There appears to be a basic mode of mind action that accompanies life even in its lowest forms. In the beginning this is undifferentiated. For example, in the one cell organism, such as the amoeba, the cell seems to have an awareness en-

abling it to perceive food and to reject what is not food, also to move from place to place. In the higher organisms that are differentiated into organ and function, the mind action appears to be differentiated also. Thus, in an incipient state, starting, or rather prophesying, the special organs and special senses, one set of cells become a mouth, another a digestive tract, a third, the beginning of a nervous system, a fourth group form a circulatory system, etc. In the same way that these various groups are developed as to form and function, so, apparently, they increase in mind action. The term 'mind action' is not exactly descriptive of the thought I seek to convey, for whatever mentation appears in these low forms of life is almost wholly unconscious and does not answer to the meaning of mind action as we know it, yet it is intelligent; that is, it acts for a purpose, and in this sense it belongs to the world of mind, or 'mind stuff' as Prof. Clifford would put it. As the organism becomes still more highly perfected and organ and function emerge into greater distinction, the intelligence increases and the special senses put in an appearance. In the same way we may assume that the awareness, or consciousness, of the organism, follows a corresponding development. In the beginning each cell covers all the functions, but in a low and primary way. Later, some of these general powers are assigned to one group of cells, while others are unused, or left dormant. Different functions may be developed in another group, while in a third set

specialization takes place in still another fashion. The process is in a way analogous to what we find in society, one set of men being carpenters, another farmers, still another professional men, and the like. In this process of specialization, or differentiation, the governing factor appears to be necessity, or practical utility. The special senses emerge out of a primary, or general sense, which may be what we now term feeling. One set of cells organize themselves into an eye, responding to a certain range of disturbance in what we call the ether. Another set become an ear responding to a much lower range of frequencies. Still another become taste, which is useful in selecting the food of the organism, and still another become smell, which is like taste at a distance.

That all of these special senses arise out of a primary sense is indicated by two facts. First, we all possess this primary, or general, sense, although in low degrees, usually below the threshold of consciousness. Some of us can feel the presence of another in a room, although we do not see or hear him. In the same way we have the same sort of awareness when we approach a wall in the dark. In cases of blindness, deafness, etc., where one of the senses is lost there is what we call compensation in the heightening of other senses, or in the emergence of this primary sense. This is especially marked in the cases of Helen Kellar, Laura Bridgman, and many deaf mutes, and persons born blind.

In the same way there appears to be a certain

primary mind action, or potentiality of reaction to sensation, also of cognition. In other words, not only our special senses but our modes of intellectual action are special forms of this primary and general intelligence that appears in some form or degree wherever life is found. Bergson refers to it as instinct in the lower forms of life, which in man becomes intuition. Socrates recognized this element in his "Demon," which he said told him not so much what to do as what not to do, something like inhibition. Plato, whether consciously or not, was highly intuitive, and his intuitions, by the way, have been fruitful not only in creating a philosophy that has lived twenty-five hundred years, but in being confirmed in rather striking ways by modern scientific discoveries. In Neoplatonism this intuitive and idealistic feature came out in still greater relief and assumed the form of mysticism. Great figures of this school, such as Ammonius Saccas, Porphyry, Proclus and Plotinus were contemporary with the rise of Christianity, and it is not too much to say that Neoplatonism and the philosophical schools that led up to it furnished the philosophical background of Christianity. Paul and John, to say nothing of the Master himself, had a mystical element. St. Augustine drank deeply at this fountain and carried something of the spirit and even the form of the Platonic philosophy into Christianity. Augustine had much of the same mystical viewpoint as the Neoplatonists, which he thus bequeathed to all Christendom even unto

our own age. It has been said of this great father of the Church, that he builded a bridge which carried mankind across the dark ages.

Plotinus was the foremost figure of the Neoplatonic school, as he was its great mystic. He stated that three or four times in his life he knew the ecstasy of contact with the Divine. From his day to the present, mysticism has had not only a recognized place in philosophy, but in religion. The annals of the Church would be poorer without the history of mysticism such as appeared in St. Teresa, in Eckhardt, in Thomas Aquinas, in Boehme, who saw the signature of God in all things, and in many more bearing the most honored names in Church history. The mystical element is found in many religious leaders, especially in those who have given new inspiration and a new direction to religious thought. It is especially prominent in men like Swendenborg, George Fox and John Wesley, and in our own day it appears in the "Cosmic Consciousness" of Dr. Bucke and in Walt Whitman and Emerson.

Not only is it present in the history of Christianity, but in other religions, especially in the Hindu faiths. Whatever the difference in time or in creed, these mystic experiences are alike, with similar inner states, and even an almost identical symbolism.

The mystical element is apparent in the work of all the great philosophers. It appeared in Spinoza's intuition, or highest way of knowing. There is a vein of it in German idealism. Even

Kant was interested in Swendenborg and wrote a little essay about him. A recent publication by the University of California Press refers to this same element in the early writings of Hegel. John Cooper Powys suggests that both Kant and Hegel probably arrived at their conclusions by intuitive or mystical means, but because this method was not in vogue in their day they afterward carefully obliterated all their tracks and made the usual logical approach.

Mysticism is direct, inner contact with God. How all this refers back to the primary form of knowing, or of mind action, of spirit breaking through matter, that is an accompaniment of life itself! It is as though there were a universal sea of intelligence lying under, or back of, all things, which organizes itself into matter and through matter into consciousness, with the power both to know, and to act upon, its environment. In many it becomes still more highly specialized, but with a subconscious or extra conscious substratum, that is in some way in contact with this universal intelligence pervading all life and all the universe. Mysticism is a tapping of this level of universal intelligence. The Hermetic philosophy declared man a microcosm of the Universe, containing within himself either actually or potentially the quality or essence of the whole. Jesus said, "The Kingdom of Heaven is within you." If this is true, then our mystical contact is with the Divine principle of our own higher natures, a communion with the extra conscious mind that presides over our

own organism, and, through this, a communion with the world-soul, or the intelligence at work in the cosmos.

We may approach this thought in another way. The universe is one thing, as indicated by its very name, and everything in it partakes of its life, its power, and its nature. Not only so, but everything that occurs in the universe affects everything else in it, although infinitesimally. Thus each entity is aware, in a sense, at least potentially, of every other entity, and of everything that happens. The whole universe is accessible to each entity in it. As Emerson said, we are inlets and outlets of the Infinite, and all of it.

We have an analogy to all this in radio reception, by which we select out the particular message we desire and by amplification bring it into the range of our sense perception. If we could do the same thing on a larger scale we could select and amplify any occurrence in the universe. We are thus potentially and essentially in possession of the whole intelligence of the cosmos.

When the sun shines the stars are blotted out. In the same way the Here and Now makes so much noise we cannot hear or perceive the remote either in space or time. These happenings affect us infinitesimally, but affect us nevertheless. As Leibnitz put it, each monad is representative of the universe from its viewpoint. For practical reasons, however, we only respond to that which is nearer at hand and therefore affects us more intimately in practical life. Our

senses are coarse and respond to comparatively great aggregates, yet every great aggregate is made up of infinitesimal elements. Every wave is constituted of a multitude of smaller waves. We get a cumulative effect, or the average of these minute happenings, which we lump into what we call sense impressions.

The mystical approach is not from the outside which looks on phenomena from these aggregate or massed appearances. It is more immanent, more from the inner, more of the spirit and life that actuates these outer manifestations. It is analogous to instinct in the lower forms of life, of being aware without knowing just how, like the wasp that somehow senses where to sting the nerve centers to paralyze the caterpillar; like the animal that automatically responds to an emergency; or as organisms on every level of life that use an almost infinite variety of methods of protection. This is the primary form of intelligence, already referred to, that is not only prior to special forms of intelligence, but in a sense superior to them in that they in their very nature are limited while it is universal.

It must be understood that I am in no sense condemning the intellect, or seeking to challenge the intellectual approach to truth. My only plea is that it be supplemented by the intuitive. An eagle can only fly with two wings, and the mind needs both intellect and intuition to soar to the higher levels of thought. Without intuition the intellect is in peril of dogmatism, of abstraction, and of the endless spinning of theory,

whereas without the intellect to check up its results, the inspirational or intuitive mind is in danger of running into fanaticism or even hallucination. We need intellect to discover and classify facts but we need intuition to give insight and illumination. Without intuition not only our religion and our philosophy, but our literature, our science and invention would be impoverished. Many of our discoveries are due to thoughts that come unheralded into the mind. Genius is beyond our explanation by logical processes. We prepare our minds by study for receptivity of truth which comes like the grace of God, we know not how. "The wind bloweth where it listeth."

In other words, mysticism knows not only by the whole powers of mind through intellect and reason, but through the heart, the emotions and the will. It is that Something that is anterior to and superior to the organism, "that Divinity that shapes our ends rough hew them how we may." It is the power that responds to every form of life to the extent of its need and conscious or unconscious appeal, the power that guides the bird or the bee in its flight, that emerges and takes control in unexpected crises, that furnishes each organism with the adaptations and faculties necessary to its change of environment and to its preservation, that is always and everywhere present to protect, to improve, to lead on from stage to stage of higher unfoldment.

Reference has been made to the symbolism of

the mystical. As a matter of fact our conscious minds are so constituted that they know only symbols. They see things in pictures. We have language symbols, mathematical symbols, concept symbols. We see nature in symbols and clothe these on with meaning. We see not only the appearance, but associations which that appearance calls up. When we look at a horse we see all that the horse means to us, all the essential history of our life as related to horses. A savage in the middle of Africa when he sees a picture sees only a two dimensional thing with scratches and marks on it. He has not been educated into seeing its perspective and symbolism, into what it represents and means. When we look upon a picture we see it as it should be; that is, we see it as the three dimensional thing it signifies. We clothe it on with our own esthetic appreciation.

In the same way mysticism at first comes to us in symbols because our mind can comprehend these. In my own experience and that of others, however, this stage passes into that of direct perception, or rather into the awareness of truths, ideas, and principles without the necessity of symbolic representation.

The reader should be warned against confusing mysticism with occultism. The two are quite different, as different, for example, as white and black magic. Occultism carries the taint, at least in the popular mind, of having dabbled in black magic, as well as being a pseudo-science. Mysticism is on a different plane. It is free from the

commercial element. It is essentially religious in its nature. It is recognized by such modern writers as William James, Dean Inge, Maurice Maeterlinck, Evelyn Underhill and others of like standing, especially among the foremost religious and spiritual authors.

Mysticism is a recognition of the spiritual element in the universe and of the psychic factor in nature and life. It believes that the intelligible universe, the universe of mind, can only be explained in terms of mind and not from any lower level of the physical. It is based on the idea of Divine Immanence. It holds that this is a spiritual universe here and now, and that God acts, not through special interposition, but as one with the Cosmos, somewhat as the mind and body act together in man. The two are concomitant, the different phases of the same unity. It holds that life is a breaking through of spirit into matter, and that no reality can be explained or comprehended aside from the spiritual element. This is the active, as matter is the inert. The reason David Hume could not understand cause and effect, and that no other philosopher has ever really explained it, is that they have approached it only from the material side. They have sought to posit action without an agent. Spirit is self-acting. It is initiative. We must recognize this element in the passage of cause into effect.

Recejac points out that the only copula connecting the potential with the actual is "fiat." We cannot say that the possible is the actual,

but only that it is made the actual. We might use the word *becomes* except that it is too indefinite and lacks the causal or dynamic element. It is like the play of Hamlet with Hamlet left out. An act presupposes an actor. The bridge from the potential to the real does not build itself any more than there can be purpose and meaning in the Universe without a mind to plan and to comprehend.

In conclusion I desire to point out two things. In our last chapter we touched upon the principle of polarity and this runs not only through all nature, as indicated by electricity, but also through the dialectic of thought. It, therefore, must apply to the highest, to what Descartes and Spinoza referred to as thought and extension and which we call spirit and matter, the synthesis of which is the living universe itself. This suggests a solution of the world-old philosophical problem which is indicated in the query, can anything be added to the sum total of things? This question has been brought into the very foreground of modern philosophical thought by the evolutionary hypothesis, and modern philosophers have, therefore, sought many devious ways to explain it away, or to answer it. Bergson implied that time in some way is cumulative and does bring in novel factors or developments. William James even went to the length of advocating "Pluralism" in an effort to get away from the issue raised by this question of addition, or of novelty.

An adage of the old philosophy was that

nothing from nothing comes, and, therefore, that we cannot take out of the universe more than we put into it. Another form of this thought is that any evolution must be preceded by an equal involution. In an absolute sense nothing new is possible.

May there not be a rather simple solution to this old problem suggested by this very idea of polarity? I have already pointed out* that spiritual things differ from material things in this respect: Whereas material things are diminished by division, spiritual things remain constant however much they may be shared. This is true not only of such spiritual things as ideals, truth, love, wisdom, freedom and the like, but it is also true of life itself, for there is as much life in a cell after subdivision as there previously was in the primary cell, and this is true of all the trillions of cells in an organism, or the almost infinite number in all organisms upon the earth. As already pointed out, the primary principle of polarity is that what we can posit of one pole we cannot posit of the other. Therefore, if the material pole is *bound* the spiritual pole is free. If the material pole is diminished by division that does not necessarily follow for the spiritual pole, as we have already seen.

Now to apply this idea to our problem, the difficulty raised by this question of addition and of novelty. This difficulty belongs only to the material pole, to the block universe. The spiritual forever increases. There is ever more wis-

* The Philosophy of Jesus.

dom, more love, more beauty, more good. Growth or unfoldment is a spiritual activity. It may well be that all of these vital manifestations in the material world are only caused by the breaking through of spirit into what we know as organic life and in its higher forms emerging on the levels of reason, and of conscience. In other words, growth, addition and novelty are of the very nature of the spiritual pole of the universe.

It is not without interest, and possible relevance, that the conservation theory does not apply to mind. That is outside its circle. It measures the physical act but not the will that initiates such act. The conservation of energy is perfect, so far as we know, in its own circle or field. Thought and will are outside its boundaries.

CHAPTER V

THE EXTRA CONSCIOUS MIND

THIS study is something like an adventure in truth, and searching for truth in turn is like searching for anything else. Clues are left about that we can find if we know where to look and how to look. In our lessons up to this time we have given the background, or rather the approach, to our real inquiry. And we have discovered a number of things—that man can not only seek intellectually, but he can seek with his whole mind, of which the intellect is only a specialized form. He can seek through intuition and in fact many of the philosophers have employed this method. Plato consistently used it and called it reminiscence, which would imply that there is something native in the mind of man of which he is not fully conscious; but he finds reminders in life that bring him some of this original essence of truth that at least potentially he already knows. We have also found that man

* It is difficult to find the right word to designate the mental processes that go on outside the boundaries of ordinary consciousness. The unconscious is not quite accurate for this mind is not wholly unconscious. The automatic mind is subject to objections for the conscious or habit mind, is, also to an extent, automatic. Subconscious or sub-liminal implies inferiority or a lower order which is misleading also. Dubois protests against this, for the unconscious is as much super-conscious as sub-conscious. For these reasons and others, I adopt the term extra-conscious, using *extra* not in the sense of more but beyond. My own idea is that the super-conscious belongs to the soul while the sub-conscious pertains to heredity and nature and has to do with the biological mind, if we may use that term, or the memory stream from our ancestors. The extra-conscious includes both.

can contact something beyond himself. This has had various names. Matthew Arnold referred to it as a "something not ourselves that makes for righteousness." Spinoza named it substance; Plato called it an idea; Hegel found that the absolute is not in the phenomenal universe at all. It is the idea. He followed Plato's method and reached Plato's goal, although more than two thousand years separated them and they wrote in countries far apart and in cultures vastly different.

We have discovered also that polarity runs through the universe; that it constitutes the dialectic of thought, for the two poles are but opposite statements of the same thing and, when caught up into union or synthesis, they constitute a new pole of a higher dialectic, so that by these methods—something like Jacob's Ladder that led to Heaven—we can ascend to more and more general statements and thus can approximate more fully to the idea which both Plato and Hegel—the two greatest minds that ever appeared in philosophy—called the absolute. In this inquiry so far we have gotten rid of certain difficulties or, at least, have found the false elements in the problems suggesting that, after all, they are not problems. We discovered, for one thing, the false infinite, the phenomenal infinite, the infinite of immensity, the infinite reached by addition; that is, the kind of an infinite that our intellects, constituted in the way that they are, always posit and picture. And not only the false infinite did we discover in this way, that

is, an infinite series which through this method of division and addition, we could never reach; but we discovered the true infinite which is at the other pole. We found that exactly what we can say of matter we cannot say of spirit. For example, things diminish through division in the phenomenal world. If we have two apples and give one away we have only one left, if we have two dollars and spend one we have only one in our possession; or, "we cannot eat our cake and have it." That is what we say of the phenomenal world, but we discover that the things of the spiritual world, of the other pole, such as love, truth, freedom and the ideal do not partake of this limitation, but that the more we give of them the more we have. We discovered that this is also true of life, and I am speaking now not in the ideal but in the scientific sense, for there is always enough life for all of the organic cells, whether there be one of them, or one trillion, or one with a series of cyphers after it extending across the room. This implies that our old problem that we can not have anything added to our universe applies only to the block universe, to the phenomenal universe, to this pole of matter. It does not apply to the pole of spirit at all because the very nature of spirit is always to be adding and giving, always developing, getting new meanings, new enlargements, new understandings and new power.

These and other things we have discovered but thus far we have only gotten the formal part of knowledge or of philosophy. From this point

we are beginning our real adventure—that is, we are filling in this outline of the formal. We are giving it a content and not only a content, but a dynamic element that will bring life into it—movement, action.

Now, the old philosophy, we will say, ended with Hegel. He died one hundred years ago approximately, and from that point onward we have had a century rich in scientific discovery. The old philosophy did not so much deal with science because science, or rather the special sciences, had to do with the accidental or the contingent universe, and the old philosophers were only interested in the thought universe, the ideal universe, in the universe of the necessities of thought. As I have already pointed out, it is not necessary that any particular event happen so far as the cosmos is concerned. It would go right on if that event were different or if it were not to happen at all. Yet there may be a false element in this view. It requires the whole universe to function as itself, and if anything were left out, anything either in sequence or in manifestation, it would not be the same universe and therefore it would not be complete, so I suspect that in the idea of the old philosophers as to these things they called contingent or accidental there was a possible error. In the mind of God everything that is, is necessary. It could not be otherwise unless the sequence were otherwise. In the phenomenal universe things are a bit bound, and perhaps it is only at the other pole that the element of freedom is realized. Every-

thing is as it must be and, as Leibnitz said, only the best possible universe can result, whatever the appearance may be.

Now, following Hegel, first in philosophy and next in science, this content has been furnished. Schopenhauer—I dislike his pessimism—gave the dynamic to this outlined form that Hegel left us. He gave it in the form of will and wrote his great work on the universe as will and idea or will and representation. Here was a motor factor, if you please. Here was a factor of action that Kant had already discovered in his practical philosophy as partaking of the noumena instead of the phenomena of the universe. For when there is action there must be an actor, and when there is will there must be an incarnation of that will. Following Schopenhauer, Von Hartmann gave one more clue in the Philosophy of the Unconscious. He discovered that not only Schopenhauer's will but ideas themselves are frequently unconscious and that mental processes go on in man and in the lower animals without any apparent form of consciousness accompanying them. He discovered also that these processes are not mechanical. Descartes had declared that animals behave like machines, and that view was accepted for centuries. It is only when we get to the facts, in the truly scientific sense, that we discover animals do not behave like machines. We can give some very familiar illustrations. For example, all kinds of birds incubate their eggs outside of the organism but there is a wide variety of methods in this incu-

bation. In most cases, especially in cold climates, the mother bird hovers the eggs, but with the ostrich and similar species, the father does it, possibly because the eggs are laid so infrequently and it is almost impossible for the mother bird to attend both to the egg-laying and the incubation. In warm climates it is not necessary to incubate eggs at all, so they are left to hatch in the warmth of the environment and in some places where it is hot in the day and cool at night, the mother only hovers the eggs at night.

Now, Von Hartmann says—I have not verified the statement but I think it is verifiable—that if we introduce some birds into an incubator, or into any warm inclosure where it is not necessary that they hover the eggs all of the time, they will not do so. If we follow out this method of fact finding, we discover other proofs that the instinct in animals is not wholly mechanical, because if the practical needs of the situation change, the conduct of the birds or of the animals changes accordingly. But that this is not a conscious purpose worked out in the minds of the animals and of the birds is proved by another circumstance, for not only the conduct changes, but, if left long enough in the altered environment, the structure changes also. There is something at work deeper than the mere mind of the creature itself.

Now, we are getting at something we discovered in our last chapter on mysticism. There is a margin or a background of mental life that

we have not known about, so that Von Hartmann—and please bear in mind that Von Hartmann came before the modern discovery of the subliminal or subconscious mind—he was approaching this thing philosophically—Von Hartmann finds evidences of this unconscious mind throughout nature. We shall have occasion in different connections to refer to this same factor, for it will crop up again and again. When we come to the humanistic side of our subject, we shall find it quite as much as in the biological, for man has instinct, as well as the lower animals, and man sometimes is wiser than himself. He often acts more unerringly than he could by conscious thought processes. In a sudden emergency where life is at stake he saves himself without knowing quite how he does it. I suspect that is the way animals act. They do not have time or ability to think out what to do. They act, as we say, automatically. This action is intelligent, but it is of an order of intelligence that is not conscious. So, again, we have this tremendous thing, this universal unconscious, one phase of which we discovered in our chapter on mysticism, and other phases of which will appear in evolution and other branches of our subject.

May we approach this idea from another angle? I have already said that nature is always like herself, and that everything in the universe partakes of the essence and the quality of the whole. That is only another way of saying that man is made in the image of God. Boehme dis-

covered this when he said he found a "signature" in all things and Tennyson in poetic form said the same thing when he spoke of the

"Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower — but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

I suspect that if we could really know any part of the universe, inside and outside, we should know the whole.

Now, what is it that actuates these mother birds to hover their eggs, but to cease doing so when the incubation can take place without the hovering, and to hover them only to the extent that is necessary to bring about incubation? I do not say that this varied conduct occurs in any one bird. I say it occurs if the environment is changed through two or three generations, so that the power, whatever it is, has time to act. What is that power? Is it not what Von Hartmann refers to as the unconscious? Is it not the universal mind at work everywhere, but ever emerging on higher levels of realization and power?

Now, coming back to the idea of man as a microcosm, of man being representative of the universe, "the measure of all things." Some one has said that man in himself contains all the lower forms of life. I do not care how it is put; the truth is obvious. If man did not contain within himself the potentialities and the quali-

ties of the universe he could not know the universe. We cannot know something different from thought. Thought can only know thought. We can only know meaning. Now, if man is representative of the universe; if man is in miniature what the universe is in large, then shall we not find in the cosmos, in the universe at large, what we find in man, although in nature it will be found, of course, in a greater and grander degree? This is the scientific approach we are now making. We begin with man because we know him better, or think we do. Perhaps we do not know him so well as we imagine, but we know something about him. We know for example, that he has a conscious and an unconscious mind. We know also that the boundaries of the unconscious mind are very large. One psychologist puts it that man's conscious mind compared with his unconscious is like an iceberg with seven-eighths of its bulk below the water and only one-eighth above. The conscious mind is above the water in the sunshine and the unconscious beneath. In other words, the conscious mind is only one-eighth of the whole. It does not matter what the proportions but it is tremendously important that we recognize in all forms of life the extra-conscious or subconscious mind.

We are getting now a clue to this thing called instinct. It is not mechanical, yet it is not consciously mental. In other words, there is something bigger than the individual, which explains the individual, which motivates the individual,

which protects the individual and which is a necessary background of the individual. Someone has put it that this something is anterior to and superior to the organism. That necessarily must be true because it shapes the organism, moves it and in a way presides over it. Do we ever stop to think that the unconscious movements of our bodies must have a psychic element? Take the beating of the heart—it does not always beat at the same rate; it is not mechanical; we get excited and the heart beats faster; if we need more blood the heart responds to that need and responds to the mental impulse even before the action takes place that calls for the increased circulation. If we see a bear in the woods the circulation starts at once, although we have done nothing, physically speaking. The mind has done something, however, and the heart, being actuated by this mentality, starts beating at a great rate. Again, we see a meal on the table. We have not touched it, yet the mouth waters and there are enough of the secretions of the whole alimentary canal started into action to take care of that meal. The more we examine the body the more we are convinced that there is some intelligent control of every organ and cell, for it behaves intelligently. I have long had a theory that cancer was caused by the selfishness of a group of cells that had gotten out of hand, and I read in a recent newspaper that this has actually been borne out by a new discovery. Fortunately there was also discovered a remedy to bring about adjustment. There is a sociological

analogy to these cells acting selfishly. Let us suppose a case of central control being lost in society or in government, one element of the population getting out of hand and beginning a selfish movement without regard to the welfare of the whole body politic. Now, something like that happens in the organism. In other words, the organism has to be co-ordinated. It has to be under a central government, just as does society.

This brings us to a bigger thought. If man is a microcosm of the universe, then what we find in man we shall find in the universe at large, in a grander and more cosmical form. If we find in man conscious and unconscious mind, we shall find the same in nature. This idea is fruitful. It solves many of our problems. It has already solved one problem, that of instinct. Another problem that it can now solve is that of Pantheism. The great religions have taught something of the soul of the world. That was the idea of the old Greek religion and was carried out in its polytheism, a multiplicity of gods that personified the forces of nature. There was the god or gods of the winds; the god of the seas; the god of thunder; the gods and goddesses of the fruitful earth; and other divinities representing almost every power discovered in nature. We say that was merely superstition, or the creation of the child-mind of an earlier culture. Yet it may suggest a truth, which is that in the same way the organs of our body are presided over by mental powers—subconscious

mental powers—the beating of the heart, the functioning of the kidneys and of the liver, of the glands, of the nerves, of the processes of growth, of the processes of healing, so cosmical mind preside over the processes of nature as a whole.

In the proper place in the chapter on psychotherapy, I hope to point out how a wound heals, how every step in the process is intelligent and, in the same way, how everything in the organism from its birth to its death is intelligent and is actuated by mental processes, but processes that in the very necessity of the case are unconscious, or almost so. If that is true in the organism, then why is it not true in the world at large? This idea is harmonious with what man has always believed, that there is a soul of the world. Here we have the soul of the world acting, but in an extra-conscious way.

In man, however, we find not only a subconscious but a conscious mind. Then, shall we not find the same thing in the cosmos? The only objection to Pantheism, to the idea that everything is God, to the idea that nature is ruled by God, is that apparently these processes which go on in the world are mechanical which is too low a concept to be applied to the free, intelligent, loving mind of God. Here has been the difficulty. It largely disappears, however, when we reflect that this is only one aspect of the mind of God just as our subconscious mind is only one aspect of our own mind. Above that is our conscious mind. In the same way above the

soul of the world, the unconscious mind of the universe that is functioning through organic life and through nature, is the free, loving, conscious mind of God that rules it. As we find these two phases of mind in man, so we find them in the cosmos*

Now, let us take another approach and inquire what this unconscious mind is. In an earlier day, when the whole subject was new, the unconscious mind was dealt with as though it were the mind of some other entity. That is duality, and something worse. If we inquire closely we shall find this hypothesis is not at all satisfactory or necessary. There is only one mind, but it is one mind functioning in different ways, for practical reasons. Let us see if we can make this plain. We all know what is called the automatic mind. A thing that we have done a sufficient number of times to have perfected ourselves in the art becomes automatic. When a baby starts walking it is a painful process, but if the baby has walked a sufficiently long time, he does not have to think where to put his feet and how to balance himself. He does that automatically. Walking becomes like breathing. We are conscious of our breathing if we want to be. We can still control our breath to a certain extent if we want to do it, but for the most part we are unconscious of our breathing. We have discovered that we can be conscious of our heart

* Judge Troward in his *Edinburgh Lectures* refers to the subjective mind in nature, but implies that it is without will or choice, but must follow suggestions. In this he leaves out the conscious mind of God, or God Transcendent. I discover that he corrects this omission in his later writings.

beating, and to a still more limited extent we can control that, but for the most part this process goes on unconsciously. In the same way, when we get used to walking, that becomes unconscious. Why? Because it is no longer necessary to devote the conscious mind to the process, and that leaves the mind free to attend to other things. Some men say they can think out a problem or a speech better while taking a walk. When I play *solitaire* that becomes more or less automatic, too, and I can think better with the rest of the mind while this inconsequential part is thus occupied. We find the automatic or habit mind in evidence in other ways. In learning to operate a typewriter, first it is very laborious and painstaking. I leave that to any newspaper man who has ever been a "one finger artist" on the typewriter—I think they call it the "hunt and peck" system. At any rate after we learn to operate a typewriter it becomes automatic. I have seen many typists who could carry on a conversation or think about a date or keep their minds occupied in various ways and still operate the machine—I do not say perfectly, but as well as usual. The same thing is true of music. It is very hard to play on a musical instrument the first few times, not only hard for the operator, but hard for the hearers, but that in time becomes automatic and the artist need only think of the music and the playing, we say, does itself. It becomes then not only an automatic process, but I am leading you a step farther—it becomes in a sense a subconscious process, and the best

musicians are those in whom the subconscious emerges into the conscious. I am not sure that all genius is not to some extent an emerging of the subconscious above the threshold. We discover, then, this process of using the unconscious going on in our every day lives. We can, by thinking backward, see how the whole gamut of what we call the unconscious may at one time have been conscious or at least conscious to some super-intelligence that worked it out. When the process was completed and no longer required this laborious attention, it was then retired, first into the automatic and then into the unconscious, where it has since remained.

There has been no discovery in modern science that has more possibilities or that is more suggestive than this very discovery of the unconscious mind. Like all new sciences, it has been given extravagant forms. Perhaps that should not excite our wonder, for it is the history of all novel forms of knowledge to have a "lunatic fringe" and to be frowned on by really respectable folk. There was a time when mathematicians were thought not to be exactly responsible or safe people. That was back in the days of St. Augustine. There was a time when scientists of any sort were classified with soothsayers, with magicians and with fortune-tellers. Any new science not only contains this element, but is subject to much of the same condemnation. It is difficult to get people to think new thoughts. Even scientists are wedded to the old and we discover much of the same dogmatic attitude in

science that we do in religion—in certain scientists that we do in certain theologians. This dogmatism does not arise from science or religion; it arises from human nature. It arises from our unwillingness to let go of familiar concepts; from our distrust of novelty. Yet that is not science, and is not religion, because it is devotion more to a preconceived idea than to truth, and the first principle of science is that we shall get rid of preconceived notions if they do not correspond to new facts that are discovered. If any theory is out of harmony with any fact, however humble that fact may be, there is something the matter, not with the fact, but with the theory. No true scientists, therefore, will ignore any fact. When we come to the chapter on psychic phenomena, we shall perhaps have occasion to refer to this in a more detailed way.

Now, it is not to be wondered at, therefore, that in the science or the psychology of the subconscious mind, there should appear extravagances. I am not at all convinced that all of Freud's theory of sex and the rest of it is sound science or sound psychology. It has at heart a basis of truth, but is carried too far. I believe that modern psycho-analysts are to some extent abandoning or modifying that theory. I think also there is in that idea a tendency to demoralize human beings. If carried too far, it may have a bad social effect. That, however, is no criticism of the idea itself, but only a criticism of the imperfect statement and use of it.

In the next chapter, which will be on evolu-

tion, we shall have occasion to show how this same mind, this subconscious mind in the cosmos, has been at work shaping organisms and how it has builded organs; how it has, not only in the individual organism, but in nature as a whole, tended toward progress and in the main, towards practical good. Again in our treatment of psychic phenomena and psychotherapy, we shall find this same element. That is why I say it is so fruitful. There has been no discovery in modern times that contains such a world of suggestion and implications as this discovery of the unconscious mind.

May I, in conclusion, point out what this may mean in the building of the organism, and in doing that I want to refer to one more writer who was not ostensibly a scientist or philosopher at all, and yet because of that very fact and because he had what we might call a novel viewpoint, unaffected by any school, gave, in my opinion, some exceedingly valuable reflections on this whole subject; and that is Samuel Butler. He worked out a theory that was to some extent based on that of Von Hartmann and referred to evolution, to the effect that apparently there is a continuity of mind in the species; that is, a stream of memory passes down from parent to child and the building of the foetus or the embryo follows such memory. When it reaches any particular stage of development it remembers automatically—not consciously, please bear in mind, unconsciously, subconsciously. It remembers what it did at that particular stage of

development and does the same thing again. Here we have to introduce another thought, that of recapitulation, by which each individual reviews and retraces the whole evolutionary process from the one-cell organism to its own perfected state as a member of that genus and species. In the beginning we cannot tell the embryo of man from the embryo of the monkey; in the beginning we cannot tell the embryo of man from the embryo of the lion, or of any other mammal, because it is undifferentiated. It is following, in its inception, the general course just as the tree in its trunk follows the general course and only differentiates in branches, twigs and leaves. Now, in a way, we are cells in the tree of life and in exactly the same manner that the sap enters the roots and covers the whole path of the development of the tree, through the trunk and up through the main branches, then into the smaller branches, and out into the twigs until it enters the blossom or fruit, so do we recapitulate the whole course of the tree of life, from its dim beginnings until emerging as a citizen of the Twentieth Century in the United States of America in the year 1930 A. D.

We do not have to look alone at rocks or at the history written in the strata of the earth for proof of the development of the tree of life. We have only to scan the history of each individual, for he himself has gone the whole road. He has the proofs in himself. The recapitulation is swift, millions of years pressed into nine months. The first processes have long been completed and

perfected so that they can be passed over rapidly until the new being reaches his own place as an individual. Then he has to do pioneer work, to be, as we say, "on his own." It is something like building a road. We can travel a road already made at 60 or 80 miles an hour. I don't know how fast automobiles travel now, but a friend of mine told me that he went from Miami to Richmond in two days. I said, "You must have traveled about sixty miles an hour." He replied, "Well, sometimes I slowed down to sixty." This road that has been completed we pass over very rapidly; that is, this recapitulation long completed. When the individual gets to the end of the finished road where he has to make a road for himself, however, his progress is retarded. That is the method used by the embryo.

Now all of this ties back into what we were talking about a moment ago. All these things that have been finished—the mental processes—are retired into the unconscious because we do not need to be conscious of them longer, and they would interfere with our attending to other things. Likewise the automatic action saves time, it is faster. This is in some sense the origin of instinct, of unconscious and automatic mental processes, and of the mechanical. It is well to keep this in mind because in it is another important clue that a lot of scientists and biologists have been stumbling over for a hundred years—the mechanical idea. They have not been able to get beyond that, or to see why things become mechanical.

CHAPTER VI

PURPOSIVE EVOLUTION

THE theory popularly known as Evolution, more accurately designated, perhaps, by the term Transformation, has revolutionized modern thought. It has not only given an entirely new direction to biology, but has profoundly affected both religion and philosophy. The battle that has raged over it has already continued for more than half a century and is today dividing the religious world into two great camps of the Fundamentalists and Modernists. Of course, there are other questions involved in their controversy, but chief is that of evolution, especially the descent or rather ascent of man from lower forms of life. We are not called upon to take sides in this battle of origins, fortunately, but while the general evolutionary hypothesis is undoubtedly correct and will withstand all assaults, there is this to be said for our Fundamentalist friends: They are fighting for spiritual values and against a materialistic interpretation given to evolution by a certain school, in both of which attitudes they are right. Further it should be said in all fairness that the brand of "high school evolution" by which they are for the most part opposed is both superficial and atheistic and mis-

represents the best and most up-to-date thought of the real advocates of the evolutionary philosophy.

The one name that stands out above all others in this field is that of Charles Darwin. To such an extent is this true that in the popular mind the term Darwinism has come to stand for evolution. Strictly speaking, however, that designation does not stand so much for the evolutionary theory itself, as for certain features of it known as natural selection and the survival of the fittest. Darwin did not originate the theory of evolution. As already remarked, the whole philosophy was foreshadowed and implied by Hegel. Before Charles Darwin came his own grandfather, Erasmus Darwin, Buffon, the naturalist, Lamarck, who by many is regarded as the real founder of the evolutionary hypothesis, and Herbert Spencer, the philosopher. All these were advocates of some form of evolution. Contemporary with Charles Darwin was Alfred Russel Wallace, who perhaps antedated Darwin in formulating the peculiar features of natural selection with which the latter's name came later to be associated; but Prof. Wallace, as soon as he learned of Darwin's labors in the same field magnanimously withdrew any claims of his own as its discoverer.

In this connection it should be said that none of these forerunners and co-workers with Mr. Darwin took the peculiar slant with regard to evolution that has since become so offensive to the religious world. Lamarck not only recog-

nized design but made the purposive or teleological element prominent in his evolutionary hypothesis. He also stressed use and disuse with which we will deal later. The same was also true to some extent of Spencer. As for Wallace, while he agreed in the main with Darwin on the scientific phases of natural selection, he was not only a religious man but an actual believer in modern Spiritualism.

Nor was Darwin himself an extremist in the advocacy of the views that have since been called by his name. Too much cannot be said for the painstaking thoroughness with which he investigated facts or the modesty with which he interpreted them. Charles Darwin was a scientist in the best sense of the word. He was at heart a spiritual man himself. Only recently I was struck by his warm defense of Christian missionaries in Tahiti, recounted in his very readable book *The Voyage of the Beagle*. He also lamented, later in life, that his study of facts and devotion to purely scientific and intellectual pursuits had robbed him of the appreciation of music and art that he had possessed in his youth. He was an intense lover of the beauties of nature as is shown in almost every chapter of this same *Voyage of the Beagle*, which was written in his younger manhood. He was interested not alone in biology, but in almost every field of science, and in the humanities as well. He struggled through the later years of his life against ill health, but this did not prevent the accomplishment of his monu-

mental labors. Charles Darwin was truly a great man and nothing said here in apparent derogation of Darwinism is meant to cast any personal reflection on its founder. It was not Darwin himself that was responsible for the extreme attitude which later so shocked and offended spiritually-minded people, but rather his followers, such as the two Germans, Weissmann and Haeckel. Frequently the disciple runs to greater lengths than the master.

Perhaps at this point I may be pardoned for a seeming digression, since it has an important bearing on this discussion. I have already referred to three elements in the work of a certain school of scientists and philosophers that I will designate as the accidental, the mechanical and the materialistic.

There are at least three outstanding examples of the introduction of the accidentalist hypothesis in philosophy; first the "accidental concourse of atoms" to form the universe advocated by Democritus and the Epicureans; second, the accidentalist theory of the formation of the solar system brought forward by Chamberlain, already referred to; and third, the accidentalist notion of the origin of variations advocated by the neo-Darwinians.

This whole theory of chance or accident, when analyzed and carried to its logical conclusions becomes so difficult and improbable as to border on the ludicrous. The worst that one can wish for its advocates is that they had been endowed with a sense of humor. It is said that Demo-

critus was known as the "Laughing Philosopher" and it can only be supposed that he was enjoying, in anticipation, the joke he was perpetrating on humanity by his theories of "the atoms and the void," referred to in the next chapter, and of the "accidental concourse of atoms." These hypotheses, as impossible as they now seem, became the basis of the materialistic philosophy for more than two thousand years and were only exploded near the beginning of the Twentieth Century by the discovery by Madame Curie and others of radium and the radio-active properties of matter. It may be remarked, in passing, that not only has the idea of "the indivisible and indestructible" atom thus collapsed but that "the void" is disproved by three considerations and inferentially by a fourth: First, no absolute vacuum has ever been produced or discovered, which truth has passed into the adage that "nature abhors a vacuum"; second, the insurmountable difficulty of conceiving action at a distance without an intervening medium; third, the well-known scientific law of continuity; and fourth, the inferential proof is, as pointed out in a previous chapter, that it is impossible for the human mind to think of absolute nothingness. As to the accidental concourse of atoms to form the stars and universes in space, modern mathematicians have figured out tables of chance, by which it would appear that the probability of such an "accidental concourse" being true is about one to a number so vast that we might as well call it infinity.

One other remark in passing: This whole accidentalist hypothesis to a mind like that of the writer seems so grotesque and fantastic that he can account for it on no other basis than that suggested by the Biblical text, "The mind of the natural man is at enmity with God," for the only possible reason for this doctrine of chance is, putting it bluntly, to get rid of God and of a spiritual purpose in the universe.

As for the accidental origin of the solar system, which has already been dealt with, it need only be added that the supposition that the throwing off of the planets was the result of another sun passing too near to our own, is that such a supposition would require a similar accident to produce the moons of each of the planets, which on the law of chance averages mentioned above would reduce the probability in this case also to approximately one to infinity. It has been said that this whole theory was introduced to get rid of the difficulties in the way of the familiar nebular hypothesis of Kant and La Place; but why seek to avoid small difficulties by introducing greater ones? The net result of this chance hypothesis is to deprive all other stars and universes of life, at least inferentially, and thus to rule God and purpose out of the cosmos, an alternative that is not only repugnant to religious sentiment and to common sense but to rational and orderly thinking.

This brings us to the accidentalist hypothesis of the origin of variations in evolution. Everyone is so familiar with the Darwinian dictum of

natural selection or the survival of the fittest, that the briefest statement must suffice here. Each living organism is supposed to differ from its parents in a number of ways, some of which differences or variations may be beneficial and some not. Such of them as are serviceable and better equip the organism to obtain food, to overcome its enemies, and to survive in its struggle for existence are transmitted to its progeny and thus become permanent in the species. On the other hand those members of the family not possessing these advantageous peculiarities or departures from type will disappear. This in a general way is the theory. It sounds well and for the most part answers to the facts found in life; but there is one large difficulty with regard to it, a difficulty that Mr. Darwin himself, so far as I know, never tried to explain away or evade:

It only acts after the variations have arisen, but does not account for the variations themselves.

In other words it is an *ex post facto* proposition. Darwin recognized this and found no satisfactory solution of the problem. The most he could say was that the differentiation is fortuitous; these variations just happen. Here is where the accidentalist element enters. Variations are chance affairs, coming without rhyme or reason. Like Topsy, they "just grewed." But having once arisen, natural selection, like a *deus ex machina*, steps into the picture and takes charge. Perhaps the phrase, "Natural Selec-

tion," should be capitalized for in some mysterious way it seems to have been personified, to have been clothed on with initiative and power. It is one of the hypostatized abstractions I have been talking about. Natural Selection is not only erected into some sort of a deity but is made the general manager of the life process. That is the way with these materialistic philosophers. No sooner have they ruled God out of the universe than they begin creating a number of little gods to take His place. One of these they call Natural Selection, another Chance, and still others Nature, Law, Mechanism and the like. But they do not explain the origin of biological variations. Not one of them has ever done that. It is left to the great god, Accident.

I crave pardon for discussing this serious problem in what may seem a frivolous manner, but, as I view it, the particular phase of the subject here considered is hardly worthy of any other kind of discussion. Species vary according to need, according to change of environment, according to use or disuse of organs and faculties. I am aware that this last is a moot point and I will refer to it more fully later. The point I am here making is that these processes are not all blind. The variations are not all hit-or-miss and haphazard. In some way we do not yet understand they come, at least some of them, because necessary for the preservation and progress of the species. There is, there must be, a psychic factor involved. It may be, and probably is, unconscious. The discovery of the sub-

conscious mind, dealt with in a previous chapter, is throwing a flood of new light over this whole subject.*

Here we come once more to the consideration of mechanism which is peculiarly bound up with the habit mind and with instinct, and which thus has an intimate relation with one phase of evolution. For habit becomes function and function becomes organ. Habit, instinct, function are in a way mechanical and thus build the tools through which they operate.

This entire subject of mechanism may be approached from another angle. Man makes machines. In a general way both the purpose and the process involved in the building of human machines correspond to the like activities in nature. This is reasoning by analogy, it is true, but the analogy is legitimate, nay more, it is convincing and compelling. Man is a part of Nature and partakes of her characteristics. Nature builds atomic, stellar and organic machines. Man follows her as well as he may, considering his limitations and stage of development. He builds material machines. In both cases the machine is not an end but a means. And in both cases, we are compelled to believe, by the very nature of the case, that the machine does not design or run itself; that its origin, its function, its control and its purpose are all beyond it; in other words that there is something anterior to and superior to the machine which explains it. In the case of human machines we know this to be

* Dr. Jung discusses at some length this subject of the psychic factor in evolution.

true. Man builds and operates his machines for functions and purposes which the machine knows nothing about. In other words, the machines are only extensions of man. Now Nature's machines are still more wonderful than those of man, and this is true whether we consider them as laws and structures in the organic, or as instinct and organism in the world of life. They too serve a purpose and perform a function. Are we not, therefore, justified in concluding, nay are we not in truth compelled to conclude, that both this function and purpose are beyond them, that they do not and cannot contrive or run themselves and that they are extensions of some Power both anterior to and superior to them? Only mind can hold a purpose, only mind can initiate, only mind can operate to a given end. These processes, both human and cosmic, are intelligent. We cannot get rid of God, for if we do, we must erect lesser gods to do His work and take His place, even if we call them "mind stuff" as did Clifford and Haeckel, or mechanism as do others of the same school.

There is yet another approach, suggested by Bergson. Man not only builds machines but he has an intellect peculiarly fitted, and apparently designed, for that purpose. Therefore, he should be doubly on his guard against interpreting the universe in the mechanistic way to which such an intellect would be prone. Also he looks on things from the outside and takes them apart in order to know them. Therefore he should be on his guard against the partial and superficial.

Whatever opinions we hold, whatever terms we use, the whole universe is self-subsistent and must be great enough to account for all it contains, including life, mind, purpose, value, consciousness, conscience, and religion. It must account for Plato and Jesus Christ, for they too, in the scientific view, are fruits of the evolutionary process.

After this long digression, let us return to Darwin, or rather to the neo-Darwinians, especially to Weissmann. To understand "Weissmannism," as it has since been termed, we must consider something of the war that raged over acquired characteristics and their transmission to offspring. For the most part, the materialistic school denied such transmission, and Weissmann went so far as to divide the organism of the parent into two parts—the ordinary cells and the reproductive cells that had to do with generating offspring. He went further and claimed that no acquired characteristic, or anything done in the life-time of the parent, however powerfully it might modify his life and the remainder of the cells of his body, had the slightest effect on the cells of the generative or reproductive system. This would seem to prove too much. If established, it would eliminate any response to environment, for there would be no place for it to get in. If the acquired characteristics of the parents be eliminated so would those of the grandparents and of all previous generations. Yet it is a familiar fact that both plants and animals are changed, and sometimes radically,

by removal into a different climate or environment, and that, often, within one or two generations. This brings us again to Lamarck and the question of use and disuse. The denial of the transmission of acquired characteristics would naturally bar out also the inheriting of better muscles or brains due to the education and training of the parent, also of the reduced power of organs diminished through lack of employment. This is not only in conflict with common sense but with the experience of stock breeders. It also goes counter to human experience. For example, suppose I come from a race of farmers, living for the most part in the open. Farmers use their muscles and because of that, in time, their mode of life affects their children and grandchildren until finally the tillers of the soil take on a character different from city dwellers. That is true in a more marked way of people who live in certain climates. If people live in hot climates where there must be a large degree of pigmentation in the skin to resist the direct rays of the sun, that characteristic will be passed down, and it is well-known that after a few generations people living in hot climates become darker skinned, and change in certain other characteristics. Now, this in itself is a proof of use and disuse. The theory of disuse is that if we cease to employ any organ, that organ begins to diminish and gradually atrophies.

Evolution is a slow process. It does not occur in mere generations as we know them, or even centuries. It often requires ages to work

out these transformations. Man has in his body vestigial organs that have not been used for thousands of years. He has a muscle to wiggle his ears. Well, very few human beings wiggle their ears. Also he has an organ to shake his scalp. That was probably useful at one time in getting rid of flies, or for other purposes, but man has been wearing a hat for long generations, and does not now use the muscle to shake his scalp. Therefore that muscle has atrophied. There are vestigial muscles and organs throughout the human body that we can only conjecture the use of. For example, the appendix. It does not seem now to be of very much profit, except to the medical fraternity. It is possible that is one of the organs passing out of use.

So that when the neo-Darwinians went to the length of denying the doctrine of use and disuse, they were simply reducing to absurdity their whole departure from the true evolutionary theory. The latest developments in evolution, however, have taken a different turn. De Vries has discovered and written a large book on the subject of mutations. He discovered that there are not only variations of the slight degree that Darwin dealt with, but that there are radical variations. They do not appear regularly. They crop up apparently at long intervals, but they are characteristic both of the vegetable and animal world. They come without any particular warning, but almost in one single generation there will be a variation sufficient, practically, to found a species. I am not saying that any one

mutation would be sufficient to found a new species—not that, but that they are much more radical than had previously been supposed and that one mutation might start a change which in a few generations would result in a new species.

Another development of more recent times is what is known as emergent evolution. Still another, and this is perhaps the most recent development, has to do with man. There was an article in the daily press very recently with regard to the subject. It concerned a talk given before one of the national scientific bodies in this country by its president, and it is, in brief, to the effect that man has been on this planet very much longer than even the biologists have supposed; that he has been here probably at least a million years or a million and a half years; that he has been man practically all of that time; that he is not in any sense derived from the apes or from any other single group that is now on this earth, although it is true, perhaps, that there is a common ancestor. This, in some degree, would tend to confirm the contention of our Fundamentalist friends. It is purely a scientific development, however, and is more generally accepted, I think, in the scientific world now than any other theory of man's origin. Scientists have never found a missing link. Wherever man is found he is man. He may have been a very much lower order of man, but he has been unmistakably human. That is the fact. And the fundamental principle of science is regard for facts.

There is one other development. You know, the human mind has a tendency to jump to conclusions and to go to extremes. When it gets a little fact it tends to run off into a very elaborate theory. When this principle of variation of species, that is, of one species developing into another, was established, the whole scientific world ran wild with theories and had life developing on this planet from a single cell. Well, that seems a plausible theory, but there are no facts to verify it. Life might have come from a million cells—I do not know how it got here in the first place. It is purely speculative and has no place in a philosophical discussion because there is no basis in fact on which to ground it.

Now, having cleared the ground, there is one fundamental question involved in this whole evolutionary theory to which I wish to devote the rest of this chapter, and that is this obscure question: What causes variations? That is the reason for the chapter heading. Bergson, the great French philosopher, devoted much of his life to a study of biology in order that he might prepare himself for a philosophical discussion of this question, and the result of that study was his *Creative Evolution*, which gave us a new slant on the whole evolutionary hypothesis. The basic principle of *Creative Evolution* is that there is an *elan vital*—a vital force—that is working in and through living organisms, to push them forward and to cause them to develop. It is evident that there is some impulse of this sort that motivates, because there is movement;

and wherever there is movement, there is a moving power. There can be no action without an actor. And wherever there is apparent a general trend to develop, to advance, to progress, there must be some impulse that causes that general movement. That, in a sense, is Bergson's idea, and he gave an illustration of it that I think is rather interesting. He likened life to a stream. He said that if a stream start, we will suppose, in a virgin country where there has never been a river before, the water breaks through and finds a channel for itself. It advances, but here and there meets an obstruction. It feels its way and gets around that obstruction, or if it cannot pass around, surmounts it in some way. It goes past or over it and seeks a channel, starting here and meeting an obstacle and coming back, darting out in another direction to meet another obstacle and again turning back as a stream would do in passing through a new country. He likens this *elan vital* to the gravitational force moving that stream. It is finding its way through matter, we will say, and it meets obstruction. It pushes out and turns back, pushes out a little farther in another direction and again turns back, until it finds or makes an open channel and goes on to its goal.

Well, now, strangely enough, life has behaved in some such general way as that, for in its early stages we find that the development was toward great reptilian creatures, immensely larger than anything we have on the earth today, and that these great creatures flourished for ages, but sud-

denly disappeared. We do not know how suddenly, but they all disappeared utterly from the earth. In other words, that development of life had not gotten anywhere. It reached the end. It had gotten into a pocket because the organism was too large. There was not enough brain. There was not the possibility of developing the brain, perhaps. Then, at a much earlier stage, life developed the insect world. The insect world was first, perhaps, or the fish world, in the oceans. In the insect world the development only reached a certain stage. It reached perfection in that stage, but it was a perfection of instinct, of the mechanical and could not go farther in that direction. The bee and ant have apparently changed little in long ages, and while these and other insect forms have remained on earth to serve their purpose, this vital impulse had to seek another channel.* Thus through trial and error and through eons of time so great that we cannot even imagine them, it held its way. It worked out until at last man appeared.

Of course, that is only a very general and vague description of the thing that actually happened. To return to this force that is in us, this vital impulse, that causes these variations, I cannot think that it is a blind force, and that is where I would differ perhaps, from some of the physical scientists and evolutionists. I say it is not a blind force. I do not mean that it is a

* Physically, the insect is very highly evolved, but its consciousness is very greatly in arrear. The exclusive predominance of instinct has put the brake on its progress toward consciousness. There has, in this case, been what looks like spurring nature on a wrong road.—*From the Unconscious to the Conscious*—Geley.

consciously intelligent force. It is the same kind of force I talked about in the last chapter, an unconsciously intelligent force. In all of these steps we have seen this idea gradually emerge—this evidence of a Presence—of a tremendous something—that is behind life and that is working out through life. Our religious friends call it God. I would call it that myself. It is a good term, but I am trying to deal with this thing in a philosophic and scientific way, so I am leaving out these familiar concepts and descriptions and trying to approach the subject *de novo*, as if we had never had these concepts, but were building anew from the facts as they develop. Here is one important consideration: We find for the most part, that these variations are useful. Take the case of rabbits: Suppose we remove the rabbit from a northern climate to a southern. Darwin himself gives this example. He mentions a southern island as the new habitat, where the climatic conditions are different. In only a few generations, these rabbits are greatly modified. They change in color. They change somewhat in habits. Since they have not the same enemies as before, they change to meet that condition. This happens, I repeat, in a few generations. Are we to suppose that an infinite number of variations happened by accident and that those which resulted in arming their possessors to meet these new environmental conditions alone were transmitted? That seems a slow and cumbersome method and is not in accordance with the observed facts. It could not have acted so

quickly for one thing. If we examine this case, even superficially, we see the absurdity of that position at once. It is an impossibility. Something else has happened, and this is the fact we are trying to get at. It is a fact that cannot be neglected if we are to arrive at truth. In some way there is a response in the organism to the new conditions. These variations do not arise haphazardly but they rather definitely meet these new circumstances. That is the point I am getting at, and it is a most important point, if we get its implications. Nor is it wholly hypothesis. There is not time nor space in this chapter to give more instances but the proofs are familiar and are all about us. The response of the organism is probably an unconscious recognition, as above remarked, because most of these vital processes seem to go on unconsciously, but they are, nevertheless, intelligent, and there is in this unconscious mind—call it what we may—and apparently in the whole cosmos throughout all organic creation, something that recognizes changed environment and modifies the organism accordingly. Without that fact being recognized there is no adequate explanation of evolution. On that ground I think the spiritual forces of the world should take their stand.

Now, I cannot forego at this point mentioning a thing that to my mind is also of vital importance. It used to be supposed by the physiological psychologists that wherever there is mind action there is also brain action. Someone went so far as to say that mental action, conscious-

ness, is apparently a secretion of the brain just as the bile is a secretion of the liver. That is the way our human intellects are always jumping at conclusions and making sweeping generalizations that are only approximations towards the truth, if they are even that. As a matter of fact, it has been discovered by laboratory tests that at least one form of mind action is not accompanied by corresponding brain action, but that subconscious mind action is greatest when brain action is least. So this offsets the entire materialistic, or, rather, the physiological-psychology theory of an earlier day. We find these two facts not only suggestive, but they may dovetail together. I have told you before that we are on an adventure in truth. We are something like detectives. We are looking for clues. Right here we have, perhaps, a clue. First, in the fact that these variations are useful and, to some extent, are not only the result of some primary impulse, like Bergson's *elan vital*, but that they unconsciously seek to satisfy a need and respond to environment. Second, is the fact that the subconscious mind is not dependent on the physical brain. These are two important facts that we want to bear in mind as we go along in these investigations. Please observe that I am following the scientific method as closely as I can; that I accept it, but I want it to be a full scientific method, and the full scientific method considers all facts without regard to previous prejudice or preconception.

May I say in this connection that I regard

psychic methods as coming under this head, if they are facts. They are just as much entitled to consideration in the scientific world as any other facts, and if they are ruled out as they have been to some extent in certain quarters, that is as much dogmatism as the religious world was ever guilty of in all its history. In time such an attitude will be rated at its true worth—it will be ascribed to prejudice and nothing more.

So in this adventure of ours we are going to take into consideration all truth, but we are going to scrutinize it carefully and determine its credentials and validity. I accept the evolutionary hypothesis, but I insist on all the facts and this one fact of the apparent response of the organism to environment, reaching out to adapt and adjust itself to that environment, cannot be neglected. Yet it has been ignored in the past and if not left out of the theory of most of the evolutionists, has at least been minimized and put into the background.

Now, Dr. Gustave Geley, in his very readable and suggestive book *From the Unconscious to the Conscious*, has dealt with this question, and has come to the conclusion that there is something in the invisible, something anterior and superior to the organism, that governs. It has been supposed that the cells themselves govern their own development, that is, that the germinal cell, in the starting of a new organism, in some way that nobody could ever find out or account for, has the complete specifications for the

new embryo and knows just how to build it, which is a rather large contract for one diminutive cell. It used to be supposed also that the embryo is an exact picture of the matured organism. Of course, that is not only incorrect, but is the farthest thing from the truth, as I have already pointed out. In the beginning of the foetal stage, the embryo of a man may look like that of any other animal or of a fish. We cannot distinguish the two at first. At a little later stage, they begin to differentiate, so that we get some few distinctions and, still later, the differentiation grows more pronounced. In this way each individual recapitulates the whole evolutionary history up to its own place. It is a mental process, because it involves memory. I have already mentioned Samuel Butler on this point, and Samuel Butler was not a spiritual teacher at all in the ordinary sense. Butler says he cannot account for the fact that the organism recapitulates the history of its parents, its grandparents, etc., back along the whole evolutionary process that led up to man unless it remembers. When it has reached a certain stage that its progenitors had reached before, it remembers what they did and follows the same course. The reason hybrids do not reproduce is that there is a confusion of memory and they do not know which way to go.

Now, it is claimed that this microscopic cell—this germinal cell—contains all that history and memory. How can that be? It is the difficulty such a theory presents that causes Geley

to suppose there is something in the invisible that governs, something superior and anterior to the organism. In other words, somewhere there is a spiritual or etheric entity carrying the whole race history of that organism, and also its own particular psychic content, that shapes the organism for its use. This is true not only of man but of all forms of life, to the extent that there is a psychic content. The organism can only contain what there is to contain, whether that be simple consciousness or self-consciousness. In either event there is somewhere in the background and in the invisible beyond the range of our senses this something that not only determines the organism but that motivates it, that gives it its full power. This is not entirely a new idea. We ordinarily call this thing in the background soul. We cannot account for it, but we say that God makes the embryo. We explain it by familiar concepts and generalizations without inquiring further. We see children grow, and say it is their nature. That does not say anything at all. Nature is just a big word under which we hide our ignorance. What are these processes? What are these factors? What is it that makes an organism repeat itself, with variations, in the offspring? We see a child. We perceive its likeness to the parent. Yet it has its own differentiations. What is this wonderful force that accounts for all of these? Why is it that the child holds true to type? We can always tell an oak from any other kind of a tree. We seldom mistake one animal species for an-

other, or one insect species. There is some little variation. In the same way we meet a million men; many of them will have faces much alike, but there is always something to distinguish each individual from every other. What is this?

Someone has said that each cell of the organism contains the history, the picture, and the potency of the whole organism. We can liken that to a social organism. That is, we will say, each man in a nation, each American, for example, is the picture of his nation, more or less perfectly; he has the general characteristics of his country; and as a cell of that particular social organism he contains the history, the picture, and the potency of the organism; that is, he has the American spirit. So we find these analogies. In the same way each of the cells of the bodily organism contains the picture, the potency and the history of that organism, which idea would seem to be borne out by this one-cell beginning of a new organism so much like the old. Yet that cannot explain all of the process, because, returning to the analogy of the social organism, I do not know of any American, if he were left alone in some new environment, who could reproduce another America. He would need a multitude of helpers. Even if we say he had the history, picture and potency of the whole nation, he would have them so imperfectly, so sketchily, that he would leave out a multitude of factors. He could not reproduce

all the machinery for one thing. I could not begin to reproduce more than an infinitesimal fraction of it, and I do not know of any other individual who could do it alone. I should think there would be the same difficulty in starting out with this one biological cell. So I fancy we may be compelled, sooner or later, to conclude that we have to go to the invisible to account for this embryonic process, that is, that there is something—somewhere—call it an etheric world, call it a psychic world, call it what you will—there is somewhere, as Plato said, but in a more vital way than Plato ever dreamed, the specifications and the archetype, a something greater than the organism that determines it.

Without that we have not gotten even an approach toward a philosophic comprehension of this theory of evolution. You know, the philosophy of a thing is the *why* of it, and to get the why of it, of course, we have to form an hypothesis, which in this case is difficult. The only way a science goes forward is to form hypotheses in its own special field. These are working hypotheses. Scientists get a fact here and a fact there and by relating these facts they build an hypothesis. If that hypothesis is fruitful, that is, if it works in obtaining new facts and in making progress, then, in that special science it is used. Now, philosophy does exactly this same thing for all of the special sciences, that is, it relates them to each other and arrives at general laws and conclusions. It takes physics, chemistry, biology and the rest, generalizes

them, and follows exactly the same process on a larger scale. It makes hypotheses that will explain them, by which we can go forward into a higher synthesis and a higher generalization. That is what we are attempting to do in this case. We can make hypotheses but we cannot get anywhere in the visible world without recourse to the invisible. We cannot determine the *nexus* between the will, which is a mental impulse, and the lifting of the arm, for example, which is a physical process—we cannot establish the connection between these two without recourse to the invisible. We cannot account for the growth of the embryo without recourse to the invisible. We cannot explain the attraction of gravitation without recourse to the invisible. We cannot explain the transmission of light without recourse to the invisible. We cannot explain energy without recourse to the invisible; in fact, we have only made progress in science by our invasion of the invisible. This invasion has gone on in ways that are perfectly apparent. When we invented the microscope, we invaded the invisible, that is, we invaded the world that was too infinitesimal to be seen by our natural eyes, and brought that into the field of vision. When we invented the X-ray, we invaded the invisible, that is we invaded a range of frequencies above the range of light. We brought them into the field of vision, so that things that were opaque became transparent. When we invented the telescope, we invaded the invisible, and stars that had been in the heavens

for millions and billions of years, but had never before been known by man, swam into the field of our ken. And, in the same way, every step of progress we have made in explaining the visible universe has been made through the invasion of the invisible. Now, we have to go a step farther, in this case, because here we are not able to invade the invisible through microscopes and X-ray machines and telescopes, but we have to do it through hypotheses, which is a legitimate way so long as we keep our hypotheses as near to the facts as we can, and keep them in harmony with the facts. That is the only way science or philosophy makes progress.

So, as a final thought I suggest this: There is an unconscious intelligence in the organism which governs its functioning and introduces variations to better adapt it and its progeny to environment.

CHAPTER VII

THE NEW PHYSICAL THEORY

IN our last chapter we discovered that progress has been made in science by the invasion of the invisible. This invasion has been brought about in more than one way. The modern scientific method has been through experiment and the use of improved equipment. Through the microscope we have invaded the infinitesimal; through the telescope we have invaded the immensities; through the laboratory we have invaded the physical and chemical; through various means we have discovered other fields. Now, this not only has widened the boundary of knowledge but has given us increased facilities in further investigations. Before this invasion started the earth was flat and, so far as we know, outside of a few ancient philosophers, nobody questioned that fact. Before this invasion started we believed in atoms as the ultimate units of matter. There had been no advance in the atomic theory since the days of Democritus when he postulated the theory of the atom and the void; that is, that the material universe is made up of atoms that were indestructible and of which there was always a fixed number in existence. These atoms, according to the theory of Demo-

critus, came together accidentally. There is a certain school in science that seems to favor the fortuitous or the accidental, evidently with the idea of escaping design. These have been not only materialists but for the most part atheists, because design means a designer and, if we once admit purpose, or final causes in the universe, we must admit some mind in which the purpose and the final causes can arise.

The atomic theory, as propounded by Democritus and developed by the Epicureans, was held throughout the Middle Ages and up until the time almost of the beginning of the Twentieth Century. It was held by Newton, and yet Newton could never understand how action could come about at a distance because that meant action through a void. Newton did not attempt to explain that; he said he could not explain it. Now, within thirty years, that whole theory has been revolutionized—abandoned forever. This came about primarily through the discovery of radio-active substances. It was found, for example, that radium—and since that time the same property has been discovered in some other elements—not only gives off electrons, but that the character of the element changes, so that we have Radium-One, Radium-Two, etc. Finally, after ages, that process continuing, radium becomes lead; that is what is known as a satisfied element; there is an equilibrium between the positive and the negative electrons in the atom of lead which makes it inert and static. Atoms are something like people. There are

satisfied people, but I would be loath to think of people being as inert and satisfied as an element. Chemical action as well as electrical action takes place in the unsatisfied elements, and if all the elements were content in that sense, we should have no phenomena in the physical universe. Both chemical combinations and electrical phenomena would be well-nigh impossible.

With the demolition of the old materialistic theory of the atom and the void, certain other changes have taken place that have been quite as revolutionary. I do not want to bore the reader by sketching out what is known as the electronic theory of matter. It is familiar to everybody and yet, perhaps, we cannot quite cover our subject unless we refer to it briefly.

The electronic theory is, in a few words, this: That in some primary substance—call it ether or what we may—there are electrical charges. It is not yet known whether what we call the electron and the proton—the proton being the positive electron—are matter in the ordinary acceptance of the term or whether they are mere charges of electrical force, but it is suspected by most scientists that they are charges. Whatever they are, the proton has an immensely greater mass than the electron, and it is not known why this is true. My own view is that it is a practical arrangement to keep the nucleus stable so that the negative electrons revolve about it. Otherwise the protons and electrons would revolve about each other and the atom, as now constituted, would be impossible.

May I digress in this connection to say that the late Prof. Edgar Lucian Larkin of Mt. Wilson Observatory called the proton a "menton," and implied by the name that it contained a psychic factor. It is not without interest in this connection that the Hindoos say that every atom contains something of the spirit, something of mind. Prof. Clifford talked of "Mind Stuff," and he implied that this mind stuff may be in the atom. Prof. Ernest Haeckel had the same idea, although he did not express it in exactly the same way. What the proton is, science does not know, except that it draws to itself the negative electron. The hydrogen atom is composed of a pair—and, by the way, this hydrogen atom constitutes all the elements, in this way, that every element is a multiple of the hydrogen atom.

The ascending scale of the elements is determined by the number of protons and electrons in the atom, and is a regular numerical series. The heavier elements, such as radium and one or two others at the top of the scale, that run into the nineties, are the ones that shoot off their electrons. Apparently, they are so heavily packed that they become unstable. There are about ninety, I think that it is eighty-eight electrons in radium, and there are some elements above that. Now, the atomic weight corresponds almost exactly to the number of protons and electrons in the atom. There are several groups, that is, there are several elements that were not known when this discovery was made, but

through this table, this series, that was established mathematically, certain new elements were discovered in the places that they ought to be, in the same way that the aberrations of Neptune suggested to the astronomers that there was another planet out beyond, and they found the planet in the place where it ought to be because of these aberrations.* In the same way, through mathematics, these new elements were discovered in the places where they belonged in this numerical series. That was a further verification of the theory.

It is not only the number of protons and electrons, however, in the atom that determines its atomic weight and its place in the scale, but the excess or deficiency of the negative electrons further determines the character of the atom. If the atom has too few electrons, it is always hunting for more, and it therefore robs any other substance that it comes in contact with of its extra electrons. If it cannot take them away altogether, it forms a union and satisfies its appetite for more electrons by sharing with another atom. That makes a compound. Thus hydrogen and oxygen unite to form water, and other elements unite to make other compounds. There is no end to the compounds that are made in this way. Not only that, but if there is an excess of electrons over the protons—and this excess or deficiency may run as high as three in an atom in the heavier substances—there is an

* An astronomer recently ascribed the finding of the new planet to accident, but admitted that it was found where the late Percival Lowell predicted. At least Neptune was mathematically located in advance which would make good the illustration.

effort to throw off these electrons. The protons are all at the center of the atom. The electrons are more or less loosely united in a system. It has been said that many of the negative electrons revolve around this nucleus of protons at the center in much the same way that the planets revolve around the sun and at distances relatively as great. We are getting down not only into the infinitesimal, but so far into the infinitesimal, that we cannot even think of it. The only way that the electron can ever be seen is by the light it gives off. The atom, in other words, is not this hard indestructible thing that Democritus and the materialists have supposed. It is as porous as the stellar system. We can shoot electrons through an atom and hit nothing. It is done continually, and not only that, the atoms themselves, when they form molecules, are separated, and the molecules are not contiguous. They are separated, especially in liquids and gases. There are many interesting points in connection with all this. It is supposed that these electrons revolve around, as I say, the central nucleus, and circulate in regular orbits. Strangely enough, when heat is introduced or there is a change in the energy affecting the atoms, so that these orbits expand—they do not expand gradually, but jump from one orbit to another. These orbits seem to be, also, in something like a numerical series. Now, we get into another factor here. The quantum theory of light, as already explained, has to do with the jumping of these electrons from one orbit to an-

other, and that gives off a wave motion, which is the source of light—the light of the universe.

Returning for a moment to our invasion of the invisible: That invasion has only gone, apparently, a little way. There are several gaps that it has not covered. The first gap is between primordial substance—ether, or whatever you will—and matter, and the second is between inorganic matter and organic matter, that is, living matter.

In the middle of the Nineteenth Century, when the evolutionary theory was new, there were a great many scientists who believed in the spontaneous generation of life and they expected, with the great strides being made in science, to discover this in short order. That belief, so far as I know, is no longer held. It was very thoroughly shattered by Pasteur. Up to the time of Pasteur it was generally thought that the fungi and molds that formed on decaying matter were the result of spontaneous generation of life and that corruption, generally speaking, bred these things, nobody knew how. Pasteur gave out a definite statement that there is no life without antecedent life, and, through a long life of investigation, proved it. So that the theory of spontaneous generation has never been held since Pasteur's time, and the resultant gap, relating to the genesis of life from matter, has not yet been filled and probably will never be filled until there is a further invasion of the invisible; we have to discover more factors.

There is another hiatus between the plant and

the animal, because the animal enters another dimension. The plant is fixed, but the animal is free in a new dimension of space. It goes from place to place. There is a further unexplained interval between the animal and man; that is, between biological processes and psychological processes. Not only can man think and speak, but there are certain new factors in man that do not appear, even in embryo, down the scale. I am not referring to reason, because animals do show some sign of reason. I am not talking of language, because animals have certain cries that mean certain things, and that is a primary form of language; but there are higher factors that, so far as I can discover, the animal does not possess. I refer especially to self-consciousness. We do not discover self-consciousness as we know it, in any animal; and a further thing is value. You may say that an animal does value food. If the term is used in that sense, you may say that, but I think it is a violation of meaning to apply it in that way, because what is ordinarily meant by values are esthetic values, ethical values, life values, religious values; all the things that go to make up human life. Then again man forms concepts. He has invaded still another dimension. He is time-binding,* just as the animal is space-binding. Man is time-binding and all of his progress, if we analyze it, comes to this: He can accumulate his experiences, make a record of them, and

* Credit should be given to Count Korzybski, for this idea, which is so well expressed in his *Manhood of Humanity*.

through comparison he can discover their laws, relationships and qualities. He thinks, and by means of knowledge and thought he can modify his environment, which is another thing no animal can do. It is said that a monkey can be taught to use a stick to knock fruit off a tree, but it has to be taught. So far as I know, it does not do this of its own volition. Aside from that, I do not know of any animal that uses a tool outside of the organism, especially if it has to fashion the tool. There is another factor because man not only is time-binding and accumulates his experiences until he makes progress in geometrical ratio with the accumulation, but he uses tools outside of the organism, which is best evidenced by our whole mechanical civilization, the machine age we have heard so much about. Machines are only tools. All of that is parenthetical.

Returning to our idea: These gaps have not yet been filled and I suspect they will not be filled until there is a much more radical invasion of the invisible than has been possible so far. Between primordial substance and matter, between the inorganic and organic, between plant and animal, and between animal and man are no doubt connections, but we do not yet know what they are. Each step in the series brings us to a new and higher level.

I have called attention to the Hermetic philosophy. That is one of the oldest of which we have knowledge. It is so old that we do not exactly know the origin of it. There were six

or seven fundamental ideas of the Hermetic philosophy. I have already given two. Now I am going to introduce a third. The first of these fundamental ideas is polarity; the second is what I call likeness, the third is rhythm. Please understand that these postulates were given out long before the modern scientific age, and everyone of them has been proved true in rather startling ways. Polarity is the whole basis of atom building, the proton being one pole and the electron the other, and it is through the union of these two poles that the physical universe is at all possible. We discovered in our philosophy of the absolute, with Hegel, that this exact process is used in thought. That is the basis of the famous dialectic—the two poles and the synthesis—the union of the poles in a synthesis. The thesis, antithesis and synthesis were used by Fichte, and were the basis of Hegel's philosophy.

We do not need again to refer to them in detail, but some of these famous triads by which Hegel ascended to higher thought levels have a bearing. One synthesis becomes the pole of another triad, and so he ascended step by step, much as life ascends from level to level. I have already mentioned what to me is one of the most illuminative of these triads, that is the universal as one pole—and the particular as the other. The union is the individual, such an individual as you or I. We find in ourselves the union of both of these poles. We would not be man without the universal element. It is that which enables us to reason, to organize our percepts into

concepts. It is the basis of all reasoning. It is that which gives us language, because language is a series of symbols applied to concepts. Language is a more fundamental thing than we have imagined. It grows out of our ability to think; that is the reason man has language and no other form of life has it in that way. While animals have cries that indicate certain appetites, so far as is known there is no animal that has any sort of a cry or a sign that indicates concepts. The animal is incapable of forming a concept. This is another factor, and it is distinctive. It arises from a form of polarity—what we might call the polarity of thought.

We find other proofs of the fundamental ideas of the Hermetic philosophy. The second is likeness or correspondence. That is stated in this way: As above, so below; as in the little, so in the great; as in the microcosm, so in the macrocosm; so, as someone else has put it, nature is always like herself. This principle has been verified in like startling ways, and I point to this significant thing: We are dealing in this chapter with the atom which is a miniature solar system. As in the little, so in the great; as in the atom, so in the solar system. This is the second fundamental point.

The third factor is rhythm, and that has been proved by modern scientific discovery in quite as startling a way. With that idea we take up another part of the new physical theory. Not only does this numerical series idea, that is Pythagoras' old idea of number, run through

this entire gamut of the elements we call matter, but the phenomenal universe is made up on the basis of rhythm. Sound is a rhythm, but a rhythm in a very low range of matter itself, that is, in bound ether, we might call it. Then, there is a wide range above sound of which we know little, but we are beginning to discover something about it, for electrical and magnetic frequencies, radio waves, etc., occur in this range, and then far up the scale, we find another range to which another one of our senses reacts, and that is the heat range. We feel heat. Closely associated with that, running above it, and in part overlapping it, is light. Our eyes react to light. On beyond the light range, we have discovered some others. One is the X-ray. I have already pointed out how that changes our conception of color values. In fact, it abolishes color altogether. Not only that, it banishes opacity. With it, we can see through a wall; we can see through our bodies; we can see through many substances that are ordinarily opaque; that is, we see through everything whose frequencies we transcend. There are some things opaque, even to the X-ray, but if we could go up the scale far enough, we might transcend them, so they also would become transparent. If we went far enough beyond, they would perhaps not be there at all; the whole phenomena would be gone. At least this is a possible inference. This rhythm discovered by modern physics strikingly parallels the ideas and the ways in which the Hermetic philosophy invaded the invisible, but did it

by a different method—through mysticism, or intuition. The Hindoos have done something along the same line. Theirs is another form of knowing, but has reached similar results, at least in a general way. All of this has a meaning for us, a greater meaning, perhaps, than our generation will succeed in extracting and making available. Yet even so new as we are in this science, we can get some meaning out of it; we begin to see whither it is leading.

We all love music but I wonder if we know why. Music is the language of the cosmical processes; it is analogous to the cosmical rhythm. It corresponds to what is going on in planet building, in life building; in making a phenomenal universe, in which sentient beings can be organized, can know, and come to themselves. This new science of ours means more than that. It means that there is somewhere a substance back of what we call the visible; that is, back of matter.

That is the second great lesson we are to learn. The Hindoos say that there is more than one ether. Let us analyze that statement. In order that there may be more than one substance occupying a given space, one of the substances must be granular; that is, we can have air and ether in the same space because air is granular; is made up of molecules and atoms, electrons, etc., widely separated, so that there is plenty of room between; it is not continuous. Now, if there be more than one ether, all of them except one must be granular, else they could not occupy

the same space at the same time. We cannot have two continuous substances; that is obvious. Well, that suggests another thought: What is a granular substance? A granular substance is a state of some other substance, that is all—a condition. It is not a thing of itself. It is a condition of something else. There is no vacuum in the universe. There is continuous substance; there must be. This is necessary so that there can be action at a distance. Not only does the radio wave travel but it must have a medium through which to travel. Light is transmitted between the planets through what was supposed to be empty space. There must be a medium through which it is transmitted. I will come come back to that thought later.

In other words, what we call matter, then, is a state, a condition, an organization of something more primary. What that more primary substance is, we do not know. It is generally called the ether of space, but the theory of the ether has been attacked, and science teaches us little more than that there is something — we know not what. We have little concept of its nature. At one time it was said that the ether of space must be not only continuous but solid; that is, in order that it should manifest itself with all of its physical attributes, all of its energy, all of its resistance, it had to be substance, in a very real way. But then, if that be true, how is it that there can be motion through this solid substance? How can we think of motion through solid substance? That has been a co-

nundrum for science, that science has never solved. We are almost forced, with that further consideration, to the idea that the visible universe is a state—what we call matter is a state of that primary substance; a state that is movable and gives us what we call motion. The earth revolves around the sun; and the solar system has a general motion that apparently includes the whole stellar universe, and all without friction. We cannot conceive of anything passing through a material substance such as air without friction, and high rates of velocity create a very considerable friction. Aviation has to meet that problem; even railway trains have to meet it, and automobiles. That is the reason for the stream-line automobile body; it is necessary to have as little air-resisting surface as possible. Just the same thing is true, to a greater degree, in water. That is the reason for the shape of a fish, pointed with rounded sides, because these encounter the least resistance in the medium through which the fish passes. Evidently, ether is not that kind of a medium because not only the earth, which is a round body, but any other form of a material body, can pass through ether with apparently no resistance whatever and no friction. I am only mentioning these facts to suggest that this is not as simple a problem as we imagine, and we are far from having reached any solution as yet. We are still groping in our adventure in truth; we are still hunting for clues, and we find some here and there, but they are only clues. We

have not yet discovered anything like a solution.

This suggests another question. What is it that holds the planets in their orbits? The general supposition is that it is a nice counterbalancing of the centrifugal and centripetal forces, of the tendency to fly off into space as against the attraction of the sun. But will this theory hold? Not if space is empty, for then the balance would have to be so perfect as to be disturbed by a hair. Indeed it would have to be absolute, which is a practical impossibility. The slightest thing would disturb the equilibrium with the result that even if the balance were varied by the smallest deviation such as might be caused by a severe earthquake or by the attraction of other bodies such as a stray comet, the result would inevitably be to destroy this hairline equilibrium and to cause the planet to fly off into space, or to go crashing into the sun. It is reflections such as these that suggest the necessity of the theory that each planet is carried in an ether stream or an ether vortex.

We cannot do without an ether of space. Scientists were practically agreed on this point until the time of Einstein and in the next chapter I shall try to show how the Einstein hypothesis has been misinterpreted on this point and how it does not necessarily disprove the existence of an ether, or ethers as the Hindoos would have it. By the way, some of our Western mathematical physicists are now inclining to this same view that there may be more than one ether, or as I have already made plain, more

than one different state of ether. One of these states might very well be an ether that would become the medium for the vorticial motions necessary to the physical universe, the smaller vortices being the atoms and the larger the solar systems, or the ether streams necessary to carry the planets safely in their orbits. May I say here that this is not alone my idea. It was put forward by Descartes, by Sir William Thompson and others, and is again brought into prominence by some of the latest investigations recounted by Eddington in one of his books on the physical universe.

The latest statement of the electronic theory of matter is that the ultimate unit of matter is identical with the ultimate unit of electrical energy. Now, a unit of electrical energy is merely an electrical charge and requires some medium to carry the charge. We cannot charge nothing or a void. These charges are supposed to be in rapid revolution. What is that but a vortex in a medium or substance?

May I approach this subject from another angle? I have mentioned this point before but want to drive it home. Man's intellect is so made that it deals in abstractions. What we call matter is such an abstraction; that is, we gather together a large number of experiences, of sense impressions and percepts—all of these that have to do with bodies in space; we lump them together and put a label on them, in the way that our intellects do, and call it matter. Now, the first thing to consider about an abstraction is

this: It is only a convenience of thought, and has no reality outside of thought. I want us to get that clearly, because without it we are not in a position to make any advance in philosophy. I suppose Berkeley has been laughed at by more people who did not understand him than any man who ever wrote on philosophy. When "Bishop Berkeley said 'There is no matter' and proved it, 'twas no matter what he said."* As a matter of fact Berkeley did prove his hypothesis. Nobody has gainsaid him from his day to this. They tried but gave it up. Now, Berkeley, when he said "There is no matter" said only this, and he explained it with painstaking care, but somehow nobody could get the point. "There is no reality in an abstraction." That is all he said. He did not deny vision or sense impressions. He asserted these things more definitely than almost anybody else. It is the habit of man to make abstractions, and the bigger the abstraction the more he stresses it, labels it, gives it a name, and to some extent personifies it. He may do this unconsciously, but he hypostatizes or actualizes it and clothes it with power. He makes his abstraction an entity. That is the reason there is a Santa Claus; that is the reason there is an Uncle Sam; that is the reason there is matter; that is the reason there are many of these personified generalizations. We get an abstraction, set it apart, put a label on it, and to some extent make it a thing in and for itself. There is value in that, perhaps. It is an aid to thinking. I am

* Byron.

not minimizing this value. I am only trying to show its limits. Berkeley saw those limits, and said that when we ascribe to matter; to this abstraction; to this thing that is only a convenience of thought, to this thing that has no real existence, when we ascribe reality to matter and say that it does things, we are talking about a mere appearance that is relative to our way of seeing. That was all of Berkeley's philosophy, and that is the basis of Christian Science. In the fundamental sense it is absolutely true. These generalizations, these abstractions, these personified things have no real existence except in human thought and have no power except as human thought gives them power. They are ghosts—philosophic and scientific ghosts.

I call attention to a further reflection along this line: Modern science deals with symbols, and for the most part they are symbols having numerical equivalents, weight, measure, frequency, etc. The scientific universe is nothing like our familiar universe of sense perception. It has hardly anything that we can recognize in common. The scientist does not talk about the world of appearances any more. He talks about relationship; he talks about qualities; he talks about atomic weights; he talks about electrical equivalents; he talks about atoms; he talks about electrons; he talks about protons; he talks about fields of force; he talks about relativities. This universe in which you and I live our everyday lives has well-nigh disappeared as a scientific, and as a philosophic reality. As soon as we

discover how we think we reach the point where we can transcend our limitations and see what is beyond them. That is another thing that science has been doing. It has been transcending all these limitations in this invasion of the invisible; it has been getting away from these sense limitations—and through that process it has been discovering the real universe, the universe of cosmic forces, and energy values, and it may be that in that process, it has been discovering the spiritual universe.

The new physical theory, therefore, not only has a philosophic value but it has a value for us as truth students. We are only at the beginning. The human race up to this time has never been in a position to go any distance in the empirical or scientific discovery of the finer forces. I have already mentioned the statement of H. G. Wells, made a few years ago, that during the last century mankind has made tremendous progress in the physical sciences, that is, in discovering environment, but that in the next century or two, in his opinion, we would make equal or even greater progress in the internal sciences. Instead of discovering forces without, we will discover the forces within, and he said our present position compared to our attainment after a century or two of that sort of progress will be as the Eskimo's igloo to the Woolworth Building or as an Indian's dugout canoe compared to the modern ocean liner. That is an ambitious program and yet anyone who doubts our ability to realize it, and more, has only to look back at

what we have actually done in the last one hundred or one hundred and fifty years in physical science. In the old days our fastest mode of locomotion was the horse and coach. We knew nothing about steam. All we knew of steam was when we saw it spout out of a tea-kettle. We knew nothing about electricity except that we had thunder and lightning. We knew nothing of the forces locked up in the atom; in fact, we did not think there were any forces in the atom. We thought the atom had lasted and would last through all eternity; we knew little of chemistry or of physics or of any of the things now of most familiar use that go to make up human life. Man has accomplished all of this. Why can't he know himself? Why can't he know his real internal powers? Why can't he learn how to utilize the power of thought? Thought is the original power of the universe. Positive thought is the greatest constructive force we know.

The new physical theory is giving us added light as to matter and is revealing to us that it is not material at all in the way that we have used that term but that it is organized energy, and that this energy has been organized by thought just as energy in higher ways is organized by thought in organic bodies.

The Hindoos call the physical universe *Maya* or Illusion. Count Hermann Keyserling finds its ultimate realities are tension and rhythm in some primary substance or ether. Our own science determines it to be energy charges and

stresses in this same ultimate etheric substratum. Man sees it as an appearance, due to his own reactions. Relativity still further approves this idealistic viewpoint and shows that matter, motion and space-time are not ultimate but are relative to the observer's frame of reference. All of these tend more and more to render matter "an insubstantial pageant," and to bring us nearer to the views of Bishop Berkeley and idealism.

There is another viewpoint, however, held by Leibnitz, that matter is merely the mode of communion, of objectivity and of activity of the monads.

This brings to mind the modern Monistic formula which, as nearly as I remember it, runs as follows:

Matter to itself is mind. Mind as it expresses
itself to any other mind, is matter.

Perhaps, that is a bit obscure and needs comment. "Matter to itself is mind." If matter is anything to itself it must be mind, because mind alone is conscious. "Mind, as it expresses itself to any other mind, is matter." The way I communicate with you is through material symbols, signs, sounds. You do not see me, but my body. The ego I experience as myself is behind and beyond this, an elusive something that even I myself do not know. How, then, can you know it? The only way, or at least the customary way, in which I contact you is through this medium called matter.

We are spirits clad in veils
Soul by soul was never seen.
All our deep communing fails
To remove the shadowy screen.

Prof. W. K. Clifford puts it in this way:

The universe, then, consists entirely of mind-stuff. Matter is a mental picture in which mind-stuff is the thing represented.

On the above statement Dr. Paul Carus comments:

The thing in itself is the inner, i. e., subjective reality, which appears (so as to become perceptible, as motions or outer, i.e., objective reality.*

In conclusion may I append my own definition:

The soul is an emanation of God, but only as latent or potential. Matter is the objective mode by which also it completes itself through evolution, expression and knowledge of the universe, of which it is representative.

* *The Soul of Man*, by Dr. Paul Carus. Open Court Publishing Co.

CHAPTER VIII

RELATIVITY

Following out our thought of the invasion of the invisible, we have discovered that there are several ways in which we do this. First, there is the method of reason which takes up our sense impressions and organizes them, gaining from them inferences and implications and uniting them into concepts, comparing them, and thus getting their relationships and discovering the laws that govern their phenomena.

There is another method to which we have had reference and which we call intuition that seems to relate back to some primary mode of mental action that is both anterior to and superior to our specialized intellectual forms. It appears to be a universal intelligence throughout nature.

Then there is a third way in which we invade the invisible, and that is through experimentation by which we find out how things act in all possible ways, and thus try to discover their real nature.

There is a fourth way, and that is through mathematics. We have to deal with that way now. The various new discoveries we have been touching here are revolutionary: They are of first importance, and I have classified them to-

gether as constituting the new factors in philosophy. The chief of these has been the extra-conscious mind; the second is evolution; third, the new physical theory; and, fourth, relativity.

Relativity is not a new term in philosophy. Before the time of Einstein there was another philosophy of relativity advanced by Sir William Hamilton chiefly, and this referred to the evident fact that man knows the universe as it relates to himself and cannot go beyond that relationship. It is another phase of idealism. We have already discovered that the universe we see we at least in part create, in this way: Color, for example, is due to our reactions. So is light itself. We look at certain large aggregates. We do not see infinitesimals yet all nature is made up of infinitesimals. We lump these together. In other words, the phenomenal universe is an appearance caused by the reaction of our organisms, and that is the reason there has always been this question of duality and of the unreality of what we see. It is not unreal in one sense but it has an appearance relative to us, the beholders. Not only do we see it in accordance with the reactions of our sense organs, but we clothe it on with the meanings that it has for us due to our peculiar organization and experience. That is only a suggestion of the older relativity theory of philosophy.

Now, the Einstein theory is different although it has some of the same suggestions and implications. It is that our universe is due to our frame of reference. There is no absolute motion in

the sense we have talked about, because there is no reference to determine it. There is nothing that is absolutely static. There is no fixed point to which we can refer any given motion, but things move relatively to each other, and this relative motion determines the constitution of things in a peculiar way. I can perhaps best illustrate that by mass. Mass is dependent on motion; mass increases with motion; the increase is only slight if the motion is relatively slow, but if the increase approaches the velocity of light, the curve is much sharper, that is, the mass becomes greater; and if the motion reaches the velocity of light the mass becomes infinite.

Einstein has brought one new fact before the physicists of the world that is not now questioned, so far as I know, which is that the ultimate velocity is the velocity of light. There is no greater velocity. It is approximately one hundred and eighty-six thousand miles per second. That would imply this to be the rate of motion of the free ether. The Einstein theory of relativity is based on the discovery of Prof. Albert Michaelson and Prof. Morley. The experiment was repeated by others. It was conducted by means of mirrors and a sufficiently sensitive apparatus to get the velocity of light, first, in the direction of the earth's motion, and then transversely to that direction. It was expected that there would be a difference but to the astonishment of the experimenters and the whole scientific world, there was no difference. In other words, the motion of light is not only

the highest rate of motion in the universe, but it is constant without regard to the motion of its apparent source or of the beholder.

As a result of this experiment, Prof. Einstein worked out his famous theorems that have become the basis of what is known as relativity, and he also worked out still further a proposition that had been advanced by the mathematician Minkowski with regard to time as the fourth dimension of space. It is difficult for anyone to understand relativity who is not a higher mathematician. There is scarcely language to express it and there are few intellects that can comprehend it, without mathematics. It has been worked out mathematically, however, to the point where the dimensions of the universe have been confidently stated. These dimensions are so immense that we cannot even think of them. They can only be expressed in light years, and there are universes upon universes involved. The nearest island universe to our own is supposed to be almost one million light years away. Whatever the distance, it is almost immeasurable—beyond our comprehension, and there are other, and still other island universes beyond that.

Now, the theory of the fourth dimension is philosophically important for several reasons. First, it gets us away from the static method of intellect. We have been thinking as three-dimensional beings. The kind of a universe we have been picturing is a three-dimensional universe. So true is this that we cannot even think of a

four-dimensional universe and can only arrive at it mathematically. We cannot picture it, but, using the simple method that I have used before, in illustrating this, I will approach it in this way: One dimension, length, is arrived at by taking the lowest mathematical point, a mere position, and moving that point. That makes a line. That is one dimension. The second dimension is made in exactly the same way. We take the line and move it at right angles to itself. That makes a plane, length and breadth. The third dimension is reached by a similar process. We take the plane and move it at right angles to itself. That makes a solid, length, breadth, and thickness.

Now, how would we reach the fourth dimension? Apparently, by following the same method. we take the solid and move it. We cannot think of moving a solid at right angles to itself, but if we could think of it, the result would be duration, that is, time. Now, time answers every mathematical requirement of the fourth dimension, and not only that, it is necessary in order that we may have movement. There cannot be movement without time—succession, in which that movement may take place, and from the aspect I mention, that itself is a dimension. In other words, we have been thinking three-dimensionally, that is, we have been thinking statically. In order to think we had to cut a thing up, kill it, that we might behold it. I have said that there is no fixed thing in the universe, except our minds, and it is

for that reason we have been trying to get a living, moving, developing universe—a spiritual universe—from the standpoint of the material, that is, the block universe—the three dimensional universe—and we could not do it. That is the important aspect of this subject from a philosophical view. The whole development of modern philosophy has been away from the static and toward a living, moving and becoming universe. That is the philosophy of Bergson. That was the philosophy implied but not stated by Kant and the German idealistic school ending in Hegel, and that is the universe of Einstein. For practical purposes Einstein's corrections of Newton in measurable distances are negligible. It is only in almost infinite distances and in thinking beyond ordinary limits that they become important, and that is exactly the point at which our old limited three-dimensional, fixed, static view of things broke down.

May I digress at this point to mention some rather interesting things that are suggested by this new approach? We never could think of the infinite, and our failure to do that, at least in part, grew out of this very difficulty I have mentioned; in other words, there is something false in our method of arriving at the whole through its parts, because the part is nothing except in its incorporation in the whole. That is the difficulty I have pointed out in that old problem of Achilles and the tortoise. It is a simple enough problem, if we look at the distance between Achilles and the tortoise as a whole, but

the minute we try to get at it through an infinite series, we are in trouble because that is an infinite series of parts, and involves this very thing I have been talking about—our intellectual method of cutting things up, of making up a whole from an aggregation of its parts. The whole is an entity in itself, and because of its integration, it emerges on a higher level. The whole is more than the sum of its parts; it is itself; it cannot be divided into parts in that sense. If we really get that viewpoint it solves a number of our old problems, philosophical and scientific. I do not know just how I can make this plain and yet it is, in my view, supremely important. If we take this true infinite series *as a whole* we transcend it easily just as Achilles, from a practical standpoint, transcends it and catches the tortoise in a definite time. Every infinite series is of like nature and is reached through the same method. That is the one way we think of infinity. It is a negative process and we approach it through a series. We think a distance in space, for example, and then, of the distance beyond that. Thinking in this way, which is the method of a series, we can never reach the end. Yet the universe is a whole thing. It must be, in the nature of the case, and God's thought transcends it because He deals with it as a whole.

Einstein has suggested mathematically what this whole is. As I say, we cannot think of it through the intellectual approach of an infinite series. We can only approach it mathematical-

ly. Nevertheless I am convinced that relativity has made a new development and a new departure in scientific progress as great, perhaps, as that of Copernicus or Newton.

That we may even approach a comprehension of Einstein it is necessary to clear the ground of one or two misconceptions. First, as to the ether of space. It has been said by some that Mr. Einstein rejected the theory of an ether and that the Michelson-Morley experiment disproved its existence. Neither statement is true. The facts are these: The Michelson-Morley experiment seemed to disprove a stationary ether, but was harmonious with the theory of an ether stream moving with the earth, such as was advocated by Descartes and Lord Kelvin and which we have already found to be necessary.

As for Einstein, he ignored the ether theory in his special relativity treatise but approved it in his later general relativity hypothesis, as he did also, at least by implication, in his still more recent paper on fields of force, in which he identifies electrical energy with energy generally. The conception of a field of force is impossible in empty space. There must be a substance or medium in which the field of force manifests.

This view is proved correct by another consideration. Mr. Einstein speaks of a curvature of space and proves that there is a slight curvature of light rays in a gravitational field. Now space, as has already been pointed out, is an abstraction and is in that aspect unreal. There could not be a curved abstraction. Such a term

has no meaning. What actually exists is space and its contents whatever these may be. To suppose a curvature of empty space is to suppose a curvature of nothing, for that is exactly what empty space would be. Thus we find that Einstein's curvature of space amounts to this—a curvature in the contents of space, in the plenum, which would be a *vortex in the ether*. This proves the vortex theory valid from another approach.

We have discovered from various considerations that an empty void is unthinkable and impossible. What exists is the universe, continuous and related in all its parts. The only reason the human mind ever entertained such an error thought as empty space is due, first, to its method of abstraction and, second, to the fact that the ether of space is invisible and undiscoverable by any of our senses. Mr. Einstein's famous curvature of space, and especially that form of it which he invokes to explain gravitation, resolves itself into a vortex in the content of space; and the "warp" or distortion of space by which he accounts for gravity is only a special vortex or tension in a gravitational field, which is not only in accord with the vortex theories of Descartes and Lord Kelvin but harmonizes with all the known facts of the stellar universe.

One of the most readable books on this subject is by Charles Nordman, astronomer of the Paris Observatory.* Prof. Nordman goes into this

* *Einstein and the Universe* by Charles Nordman. Trans. by Joseph McCabe. Henry Holt & Co., New York.

matter so lucidly that I am quoting him at some length. He says:

The phenomenon of stellar aberration proves that the medium which transmits the light of the stars to our eyes does not share the motion of the earth as it revolves round the sun. This medium is known to physicists as ether. Lord Kelvin, who was honored by being buried in Westminster Abbey not far from the tomb of Newton, rightly regarded the existence of interstellar ether as proved as fully as the existence of the air we breathe; for without this medium the heat of the sun, mother and nurse of all terrestrial life, would never reach us.

In the history of *Special Relativity*, Einstein, as we saw, interprets phenomena without introducing the ether, or at least without introducing the kinematic properties which are usually attributed to it. In other words, *Special Relativity* neither confirms nor denies the existence of the classic ether. It ignores it.

But this indifference to or disdain of the ether disappears in the theory of *General Relativity*. We saw in a previous chapter that the trajectories of gravitating bodies and of light are directly due, on this theory, to a special curvature and the non-Euclidean character of the medium which lies close to massive bodies in the void—that is to say, ether. This, therefore, though Einstein does not give it the same kinematic properties as classic science did, becomes the substratum of all the events in the universe. It resumes its importance, its objective reality. It is the continuous medium in which spatiotemporal facts evolve.

Hence in its general form, and in spite of the new kinematic attitude which is ascribed to it, Einstein's general theory admits the objective existence of ether.

Stellar aberration shows that this medium is stationary relative to the orbital motion of the earth. The negative result of Michelson's experiment tends, on the contrary, to prove that it shares the earth's motion. The Fitzgerald-Lorentz hypothesis solves this antinomy by admitting that the ether does not really share the earth's motion, but saying that all bodies suddenly displaced in it are contracted in the direction of the movement. This contrac-

tion increases with velocity in the ether, which explains the negative result of the Michelson experiment.

Lorentz's explanation seemed to Einstein inadmissible on account of certain improbabilities which we pointed out, and especially because it assumes that there is in the universe a system of privileged references which recalls Newton's "absolute space." Einstein taking his stand on the principle that all points of view are equally relative, does not admit that there are in the universe privileged spectators—spectators who are stationary in the ether—who could see things as they are, whereas these things would be deformed for every other observer.

Then, while preserving the Lorentz contraction and the formulae in which it is expressed, Einstein says that this contraction, while it really exists, is only an appearance, a sort of optical illusion, due to the fact that the light which shows us objects does not travel instantaneously, but with a finite velocity. This spread of light follows laws of such a nature that apparent space and time are changed in precise accordance with the formulae of Lorentz. This is the foundation of Einstein's Special Relativity.

Hence the two immediate possible explanations of the negative result of the Michelson experiment are:

1. Moving objects are contracted in the stationary ether, the fixed substratum of all phenomena. This contraction is real, and it increases with the velocity of the body relatively to the ether. That is Lorentz's explanation.

2. Moving objects are contracted relatively to any observer whatsoever. This contraction is only apparent, and is due to the laws of the propagation of light. It increases with the velocity of the moving body relatively to the observer. That is Einstein's explanation.

But there is at least one other possible explanation. It introduces new and strange hypotheses, but they are by no means absurd. Indeed, it is especially in physics that truth may at times seem improbable. This explanation will show how we may account for the result of the Michelson experiment apart from either Lorentz or Einstein.

This third explanatory hypothesis is as follows. Every material body bears along with it, as a sort of atmos-

phere, the ether that is bound up with it. There is, in addition, a stationary ether in the interstellar spaces; an ether insensible to the motion of the material bodies that move it, and which we may, to distinguish it from the ether bound up with bodies, call the "super-ether." This super-ether occupies the whole of the interstellar space, and near the heavenly bodies it is superimposed upon the ether which they bear along. The ether and the super-ether interpenetrate each other just as they penetrate matter, and the vibrations they transmit spread independently. When a material body sends out series of waves in the ether which surrounds it, these move relatively to it with the constant velocity of light. But when they have traversed the relatively thin stratum of ether bound up with the material body, which merges gradually in the super-ether, they spread in the latter, and it is relatively to this that they progressively take their velocity.

It is like a boat crossing the Lake of Geneva at a certain speed. About the middle of the lake it has this speed relatively to the narrow current which the River Rhone makes there, and then it resumes it relatively to the stationary lake.

In the same way the luminous rays of the stars, although they come from bodies which are approaching or receding from us, have the same velocity when they reach us, and this will be the common velocity which the super-ether imposes upon them. Thus, also, on the other hand, the stellar rays that reach our telescope will be transmitted to us by the super-ether, without the very thin stratum of mobile ether bound up with the earth being able to disturb their propagation.

These hypotheses explain and reconcile all the facts: (1) the fact of stellar aberration, because the rays which reach us from the stars are transmitted to us unaltered by the super-ether; (2) the negative result of the Michelson experiment, because the light which we produce in the laboratory travels in the ether that is borne along by the earth, where it originates; (3) the fact that, in spite of the approach or recession of the stars, their light reaches us with the common velocity which it had acquired in the super-ether, shortly after it started.

Prof. Nordman speaks of the earth carrying

the ether stream when as a matter of fact it is probably the ether stream that carries the earth. He also confirms the conjecture that there is more than one ether, or rather different states of one ether.

It will be noted that not only is motion relative but space also. The space measurements are shortened in the direction of movement. The amount of the shortening is negligible for all ordinary speeds but increases with their acceleration and would become absolute if the speed of light were attained, in the same way that mass would become infinite under like conditions. To a person traveling on a planet, let us say, this shortening would not be observed, because everything would change in exact ratio including his foot-rule and vision. To make plain Mr. Nordman's allusions to the differences between Lorentz and Einstein on this subject, it should be said that Lorentz contends that the shortening is absolute, while to Einstein it is only apparent, that is, it is shortened compared to another system moving in an opposite direction and therefore having a different frame of reference.

It is not only space-values that change thus but time-values also—not only foot-rules but clocks. If a traveler attains a speed approaching that of light his time is very different from that of one remaining relatively stationary, and if this speed actually reaches that of light, time becomes static or stands still. The velocity of light, which is the velocity of waves in the free ether, thus is not only the ultimate velocity, but

is a factor in the curvature of the universe, whose dimensional frame is the space-time continuum. To amplify this statement it is evident that the speed of light is the frequency rate in the free ether of inter-stellar space and that the three factors in our equation to determine the curve are space, time and this velocity.

To illustrate the relativity of time, some familiar examples may be cited, such as dreams in which long episodes are experienced by the dreamer in the instant between sleeping and waking; the recalling of the memories of a lifetime in moments preceding or threatening death; the feats of mathematical prodigies who see their whole problem in one act, and of chess players who visualize their entire game in the same fashion; or Mozart's well-known statement that a symphony came into his mind as a whole with no time-interval or sequence.

A yet better example is the life of some insects which lasts for a few days or at best a season. Yet so rapidly do these minute forms act that apparently their time-value is on an entirely different basis from our own, so that it is possible their lives seem as long to them as ours do to us.

Kant made time and space subjective. They were our *a priori* or necessary frame for perception and thought.

To Leibnitz space was merely the order of co-existences while time was the order of successions. Both were relative. Einstein confirms these idealistic views but does it as a mathematical physicist. In fact Einstein's entire theo-

ry is a confirmation of the older idealism. On this point H. Wildon Carr* of the University of London says:

It seems to me, therefore, that the principle of relativity is a philosophical principle which is not only called for by the need of mathematical and physical science for greater precision in the new field of electro-magnetic theory in which it is continually advancing, but is destined to give us a new world-view. It will be found, as it has always been found, that the poets with their mythical interpretations, and the philosophers with their speculative hypotheses, have led the way in this new advance. The continuity of the universe can only be a continuity of consciousness, and the mode of this continuity is imaginatively presented to us in the old eastern myth of the transmigration of the soul and (may we not also say?) in the Christian mystery of the Incarnation.

I conclude, then, that in every reflection on our actual experience we are directly conscious of an objectivity which we distinguish from our subjective activity of knowing. Whether we approach the problem of that objectivity from the abstract standpoint of physical science or from the concrete standpoint of philosophy, the result is the same. Ultimately, in spite of its claim to independence, all that an object or event is in substance or in form, it derives from the activity of the life or mind for which alone it possesses the meaning which makes it an object or event. This is not a mystical doctrine, nor is it esoteric. If we adopt in mathematics and physics the principle of relativity (and have we any choice?) the obstinate, resistant form of the objectivity of the physical world dissolves to thin air and disappears. Space and time, its rigid framework, sink to shadows. Concrete four-dimensional space-time becomes a system of world-lines, infinitely deformable. And these world-lines, do not they at last bring us in sight of an irreducible minimum of self-subsistent objectivity? No. The world-lines are not things-in-themselves, they are only an expression for what is or may become common to different observers in the relations between their stand-

* *The General Principle of Relativity* by H. Wildon Carr. Macmillan.

points. Carried to its logical conclusion the principle of relativity leaves us without the image or the concept of a pure objectivity. The ultimate reality of the universe, as philosophy apprehends it, is the activity which is manifested in life and mind, and the objectivity of the universe is not a dead core serving as the substratum of this activity, but the perception-actions of infinite individual creative centres in mutual relation.

A closing illustration will perhaps serve better than argument to bring home to the reader the philosophical meaning of the principle. On a frosty morning we may see the watery vapour in the air we breathe condense into a small cloud and then rapidly disappear, reabsorbed into the atmosphere. Imagine that at such a moment we should undergo a sudden transformation of all our proportions so that our new dimensions become infinitesimal in comparison with our present state. Would it appear to us that we ourselves had changed? The principle of relativity declares that the change could not possibly be experienced by us as change in ourselves because with the alteration in proportions the ratios remain constant. The change would express itself in the new dimensions of objects. The little globules of water which composed the cloud would now appear as stars and planets at immense distances from one another, undergoing a slow age-long evolution and obeying the law of the inverse square. The change would be a new space and a new time.

Thus the new discoveries in science are proving the idealistic philosophies whether these originated in Hindoo intuition or with Plato, Hermes, Leibnitz or Berkeley. It is only the materialistic philosophies that have been exploded, and that once and forever.

Another phase of the relativity theory is that the universe is four-dimensional and that there are not static things in a static space, but that there are moving events in a space-time continuum; that there is nothing at rest, but that

everything is moving relatively to everything else.

There is no straight line in nature. We get our idea of a straight line from a ray of light, but a ray of light has been proved to curve in a gravitational field. We also derive our idea of a straight line from our eye in what we call "sighting," which is only another form of the light ray. Our idea of rest arises from the fact that we sometimes move at the same rate as our environment, also from the coarseness of our vision which does not reveal the motion of electrons, atoms, etc.

Motion may be rapid enough to give the sense of solidity. For example, we may fall swiftly and strike the surface of a body of water with sufficient force to make it seem solid, or in hydraulic mining, a stream may be hurled with such velocity that one cannot cut it with an axe; or, again, a soft candle or a fragile straw may be shot into or even through a board.

We do not know matter but only our idea of it; we do not even sense matter but sense our neural reactions to certain frequencies and energy resistances. What we call matter is an abstraction derived from these sense reactions and massed appearances. All these things are relative to us, the beholders. A differently organized being, or one with a different frame of reference would behold different phenomena.

Our idea of infinity is also relative. There is no space-line or time-line as such but a line in a space-time continuum that if followed to its ul-

timate prolongation returns upon itself. Our straight-line infinity is an abstraction that does not correspond to any reality in nature. If followed far enough it becomes an absurdity even to our own thought and breaks down of its own weight. It is the same kind of a false abstraction as our ideas of absolute rest or a void, neither of which is valid.

Returning to the question of an ether of space, radio transmission has so thoroughly proved this as to admit of no further discussion. We have already seen that the relativity theory does not conflict with the ether hypothesis provided we postulate more than one ether, as do the Hindoos, or more accurately, postulate more than one state of the ether.

Light is apparently a wave motion in the free ether while electricity may be on the edge of the bound ether called matter, or rather may be the very force that binds it through vorticial motion; a fact that is indicated by its identification with matter as constituted by the protons and electrons. We have already mentioned the now universally accepted formula that the ultimate unit of matter is the ultimate unit of electrical energy involved in the building and control of matter. This dovetails in with the latest discovery of Einstein that electrical energy is identical with gravitational and other energy. In other words the rapid whirling of the electrons creates vortices in the ether, that we call atoms, and thus starts the binding of the ether into material systems.

We have now cleared the ground for what is to follow:

The universe, or cosmos, is a closed system which is self-sustaining and self-renewing. It knows itself which is proved by the fact that man knows it. Man is only a part of it and the part cannot be greater than the whole. Man only knows it in part, but the universe, being whole and complete in itself, must know itself wholly and completely.

Finally, the universe knows itself as mind, which is proved by the fact that only mind can know. We have already demonstrated that the universe knows because man knows and now we demonstrate that it must know itself as mind. Therefore, if man knew the universe wholly and completely, he would know it as mind. Man only thinks of it as matter because his ideas are confused and incomplete. In other words, man is in process and as fast as he evolves or expands he finds his universe evolving and expanding

- with him. The goal of this progress is complete spiritual realization.

CHAPTER IX

PSYCHICAL RESEARCH

Herbert Spencer, in his *First Principles*, said in effect that any idea that has been held by large numbers of people over a considerable period of time must contain some reality, and this is especially true if it is perennial and well-nigh universal.*

Psychic phenomena come under that description. The followers of practically all religions in the history of the world, and, presumably, even before the dawn of history, as well as most philosophers, have believed in immortality. Among civilized and even primitive peoples, it is safe to say that ninety-five per cent have held to some form of this belief. Not only so but there have been phenomena throughout the ages that suggested some such interpretation. Only within recent times, however, has there been any attempt to make a scientific study of these phenomena. In ancient days there grew up what were called the occult sciences, but in those days nearly every science was occult. Chemistry was then alchemy; astronomy was astrology; even mathe-

* "And thus it is with human beliefs in general. Entirely wrong as they may appear, the implication is that they germinated out of actual experience—originally contained, and perhaps still contain, some small amount of verity. More especially may we safely assume this, in the case of beliefs that have long existed and are widely diffused, and most of all so, in the case of beliefs that are perennial and nearly or quite universal." Herbert Spencer—*First Principles*.

matics was looked at a bit askance, and psychic phenomena naturally had about the same scientific standing in those times as the other "occult" sciences.

What I might call a systematized effort to investigate this subject probably began with Emanuel Swedenborg, who, himself, was a scientist. He spent the first fifty years of his life in varied activities; as a metallurgist, and as a scientist in other kindred lines, and was a man of note in that field. Not only so, but he was in court circles and an advisor, to some extent, to the King. It was only at the advanced age of nearly sixty years that Swedenborg had an awakening of his spiritual nature. He lived to be nearly eighty, and during the last twenty years of his life devoted himself almost wholly to—we cannot call it exactly a scientific investigation of this subject because it went beyond that—to what he termed revelations on the psychic and spiritual plane. So large a stir did he make in the world that he attracted the attention of Immanuel Kant, who wrote one brief treatise concerning him, and I am told he also attracted the attention of Hegel, the greatest philosopher of that age.

The first book to which I call attention—and it preceded the Fox Sisters and the rise of what is known as modern Spiritualism—is that of Robert Dale Owen. In fact, he wrote more than one book, but one especially I have read, *Footfalls on the Boundaries of Another World*, in which he recounts the experiences or, rather,

psychic phenomena that were not at that time susceptible to scientific investigation, yet he gathered the facts as carefully as he could and threw about them as much of the scientific atmosphere and safeguards as it was possible to do under the circumstances. These incidents concerned apparitions and psychic experiences of various well-known people that were authenticated and were generally of widespread notoriety, at least in the sections of the world in which they occurred, and some of them were internationally known.

I have already mentioned that this series of lessons concerns modern scientific developments, especially such developments as have a bearing on philosophy, and psychic phenomena certainly have a very intimate bearing on this subject. The scientific investigation of such phenomena has gone on now for more than fifty years, starting in England and spreading to the continent, to France, Germany, Italy, and other countries in Europe and to the United States. These investigations have been carried on by men that were widely known in other fields of science, under the most rigid conditions and subjected to the same tests to which other scientific investigations are commonly subjected.

I am not attempting to give any large number of instances. For this I refer the reader to the annals of the Society for Psychical Research in England, in America, and on the continent, and to books giving digests of such investigations. There is a large literature on the subject.

May I say in connection with Spiritualism itself that none of these investigators was, in the beginning, a Spiritualist in the common acceptation of that term. Practically every one of them was a skeptic and almost without exception he was converted before the end of his researches. Unquestionably there was fraud, a great deal of fraud, in connection with Spiritualism. I, myself, years ago, was prejudiced against this whole subject as a result of attending a few seances in my youth, most of which, I was convinced then and am convinced now, contain elements of fraud. That is not surprising, however, in so obscure a subject where the temptations toward chicanery were so evident as they were, and are, in psychic phenomena. For example, a medium might have genuine psychic power, but this does not come on command. It is not always present; it is a rare thing, and since these mediums, unfortunately, went into this as a matter of business and since the phenomena were not always forthcoming, the temptation to simulate them was obvious.

I call attention to one fact, however, that there is never a counterfeit unless there is a genuine coin. In the first place, there is no incentive to make a counterfeit if it is to have no value, and, second, if there is no genuine, there is no model the counterfeiter can imitate.

So much interest was aroused by those early Spiritualistic phenomena that first one scientist and then another was challenged. Here was a new set of facts, and the province of science is

to investigate facts. Finally a society was formed of some of the leading scientists of England. Among them were the two Balfours and many more of almost equal fame. One was a clergyman of the Church of England who had been very orthodox. His name was Stainton Moses and he, through a long series of years, obtained truly remarkable results. Another was Sir William Crookes whose investigations in other fields of science had attracted the attention of the world and who got results equally remarkable, not only in physical phenomena, such as movement of objects without contact, or without sufficient contact to effect the results by physical means, but also a celebrated case of alleged materialization.

Some of the most important scientists of modern times have dealt with psychic phenomena and, almost without exception, they approached it in a skeptical, if not a hostile, frame of mind and also, almost without exception, were converted. Many names might be mentioned. Such men as Sir Oliver Lodge, Sir William F. Barrett, Camille Flammarion, Cesare Lombroso, Van Schrenck-Notzing, and other German scientists of almost equal standing; Richard H. Hodgson and William James, who was interested but who never took so pronounced a stand as perhaps some of the others, which statement also applies to Henri Bergson, the prince of philosophers. Another was J. H. Hyslop who was professor of psychology in Columbia University and a man of high standing in the scientific world.

In other fields of human thought were names almost equally illustrious—William T. Stead, the British journalist, Editor of the *London Review of Reviews*; Prof. Alfred Russell Wallace, co-discoverer of evolution; Sir Arthur Conan Doyle, one of the greatest novelists and writers of his day, and many more.

Of course, no theory and no system of philosophy is proved by the character of the men who espouse it and yet this array is impressive. It is all the more impressive to me since I have studied with considerable care their work and what led them to their conclusions. There are several developments in this field that I cannot go into in this brief review. The conclusion from all of it is still more difficult to state. To my mind it verifies what I already believed, and what I therefore was predisposed to believe, the immortality of the individual soul. I do believe that most thoroughly, but I believed it before. I think I had not reached, however, the intellectual assent to it that I have arrived at now. Intellectually, I was not always sure, but I can say now with my whole mind I believe. As to the mode I am not so sure. We have our familiar concepts of Heaven, among which are that of golden streets, angels that are constructed something on the plan of birds—just why, I do not know—playing upon harps. According to that theory people who could not play a Jew's harp here become performers before God and all the hierarchy of the angelic hosts, which would be a most distinguished audience, come to think

of it. People who could not play a Jew's harp here become performers on golden harps there, which would seem to be rather difficult both for the performers and hearers. We have certain other concepts—that we do only one thing, not for a year or for a century, but for all of the eons of time, that one thing consisting of singing praises. I can imagine that would grow monotonous, at least, after the first one or two million years. It is evident, therefore, that we must have evolution, not only of organic forms of life, but of our ideas; in other words, the concepts of the child-mind do not answer for a grown-up age. This matter of mental maturity, perhaps, is all relative, and we may not seem grown-ups to people in the twenty-second century, or the thirty-fourth. I think it was the three hundred and fortieth century in which Bernard Shaw pictured men living forever here on earth. That would be another kind of immortality, though not necessarily heavenly. I find difficulties, not only in this kind of heaven, but in almost any other kind we can think about, because we still think three-dimensionally and materialistically. Lest we get a misconception, however, we should not expect that another life will be absolutely different from ours because this life, in itself, is a synthesis. This life is a union of what we call the material and spiritual, and any life of which we can think must be some kind of union of these two elements. It may be that the emphasis will be shifted, but it will still be somewhere between these two poles, in the nature of things.

One thing seems fairly sure: There is an etheric body as well as a material body. That is called by different names, in different systems. St. Paul called it a spiritual body, the Theosophists speak of an astral body, although they also posit several different bodies, or shall we say states? An etheric body is necessary from various standpoints and fits in with some of the other discoveries we have made. It gives a nexus between mind and matter, a contact point, if you please. In actual laboratory experiments it has been discovered that thought creates forms in material called ectoplasm. I am talking about laboratory experiments, especially conducted in France and on the continent. It has been discovered in these that thought forms are created. This gives us a clue not only to the building of the embryo from the idea or the thought force that shapes it, but suggests a method of healing by means of the etheric body. Assert the superiority of the etheric body over the material and let its perfection shine through. This is the permanent body—the house not made with hands. It is here that mind, not only is creative, but mind is permanently incarnated.

Now let us return to psychic phenomena. In this connection I want to cite certain instances that I remember out of this whole mass of evidence and to give these from scientists that were unbelievers.

First, I refer to Prof. Theodore Flournoy, a psychologist of world-wide repute, a follower of William James, and a native of Switzerland.

Flournoy developed one of the most remarkable mediums the world has ever seen. He called her *Mademoiselle Smith*. She not only was a wonderful medium but her results covered both communications from the dead and memory of previous incarnations; and some of her phenomena concerned, or seemed to concern, another planet. Mr. Flournoy was as admirable a reporter as she was a medium, and while he did not believe that these were actual communications from the dead, or actual memories, or actual interplanetary transmission of intelligence, he was frank enough to say that some of the phenomena he could not explain, on his theory or any other. His theory was a dramatization by the subconscious of the medium; that is, the very fact of her developing mediumship was a suggestion to her subconscious to bring forth communications, and so forth.

As to these communications, there is at least one to which I direct especial attention. It was from two Frenchmen, one of whom had been a magistrate in one of the smaller provinces in France to which province the medium, *Mademoiselle Smith*, so-called, had never gone, nor had Mr. Flournoy, nor anybody connected with the group. These communicators, while they were known locally, were not known beyond the province. One of them gave his name, and said he had been a magistrate or some minor official of similar duties in that province. He offered other facts which were afterwards verified. A communication from a friend of his bore this

out and the identity of this friend was also verified. Mr. Flournoy, very frankly, after giving this account, said he could not explain it.

As to the memories, this Mademoiselle Smith, in her previous incarnation, claimed to have been Marie Antoinette and not only did she assume the character and showed some of the mannerisms, so far as could be discovered, of the character, but knew people Marie Antoinette had unquestionably known. Back of that she went to another incarnation in India. She was the wife of a certain small reigning prince in one of the Hindu provinces, and there was a verification of that also. This place was finally found after months of searching. The language was similar and the incidents, so far as they can be determined, had occurred very much as she remembered them or claimed to have remembered them.

Concerning her communications from the planet Mars—this book is called *From India to the Planet Mars*, there is no way in which science or any ordinary human investigation can verify or refute such communications, so we shall have to leave them out of our account.

The second witness I am going to call is also adverse, and that is Thomson J. Hudson, one of the best known psychological writers of America. Prof. Hudson wrote a book in which he advanced the grounds on which he believed in immortality. First, he discovered the powers of the subconscious mind, and wrote several books on that subject, among which his best known is *The Law*

of Psychic Phenomena. He discovered powers in the subconscious mind, such as perfect memory and perfect deductive reasoning. We do not depend on our subconscious memory—not often—in common everyday affairs; we do not need to do so.

Now, he said, there is never a faculty or an organ developed that does not have some use, either past, present, or prospective, and that if there is a perfect memory in the subconscious—which is not doubted now by any psychologist—that perfect memory must have some use now, or after a while. He could not discover any such use for it in this life, and that to him was proof that there must be another life in which that perfect memory—that perfect subconscious memory—will be of utility.

He also believed thoroughly in telepathy. He was a scientist and took a rigid scientific attitude, and one of the things he laid down as a primary principle of science is that we should never seek to explain a thing by remote or unknown causes when it could be explained by reasons better known—reasons that are simple. In other words, we should not attempt to explain phenomena by communications or by the activities of another and unknown world when they might be explained by the activities of this world which is known. Hudson, as I say, believed in telepathy. He gave various reasons for that belief. He said that just as there must be a use somewhere for the perfect memory of the subconscious, so there must be a use for the power

to communicate without physical means of communication. That is what telepathy amounts to. We do not need telepathy in this life. We can talk, write, make signs or, in these days, we can telegraph, use the radio—we have abundant means of communication without resort to this rather obscure and uncertain method known as telepathy. Therefore, reasons Dr. Hudson, the existence of telepathy shows that somewhere there is a purpose for it or it would not have been developed in the organism; and since there is no use in this life for it—no practical purpose—it must be used in another life.

Dr. Hudson, however, rejected outright occult psychic phenomena or inter-communication between the dead and the living. Now, he left what seems to me a wide gap in his reasoning, and I want to point that out. I have never seen it pointed out before. Therefore, it seems necessary and entirely justified to show exactly what this gap is. Dr. Hudson said that he had read all about Spiritualism in his day—that was probably fifty years ago—that he had read about psychic phenomena, and he was not convinced by the facts brought to his notice of any genuine communication between the dead and the living. Yet he believed in immortality, and believed in it for the reasons I have cited, among others. He also believed—and this was a necessary part of his whole theory, that telepathy is the method of communication between discarnate entities—between one discarnate entity and another. If this is a faculty of our subconscious minds, like

perfect memory, and this faculty of telepathy, like perfect memory, is not needed in this life, then both must be of utility in another life. That is the basis of the hypothesis. At the same time he believed, and cited numerous evidences, that there is telepathic communication between the living.

Now, if there be telepathic communication between the living and if there be telepathic communication between the dead, then why is there not telepathic communication between the living and the dead? That is the point. I am amazed that a man of Hudson's attainments should have failed to see that obvious implication of his theory. My own view is that telepathy is a most important factor in the communication between the dead and the living, a fact of which men in all ages have been more or less aware, and that is recognized, or implied, in practically all religious systems.

I pass to other witnesses. May I mention in this connection that two of the unquestioned contributions the Society for Psychical Research has made to human knowledge are, first, the verification of telepathy, and, second, the discovery of the subliminal or subconscious mind. In this connection I want to mention one other man of world-wide fame in other fields—Prof. F. W. H. Myers who, with Dr. Hudson and some others, among whom may be mentioned William James, were the real discoverers of the subconscious mind and who brought it to the attention of modern science. Prof. Myers' book on *Human Per-*

sonality is one of the most convincing I have ever read. It is all the more convincing because it does not grow dogmatic at any point. It is tentative; it is broadminded; it does not make claims, but gives facts. Prof. Myers had much to do with the investigation of the medium, Mrs. Piper.

The third case I am going to cite is that of a man called George Pelham—his real name is not generally known. Before his death he was a member of the Society for Psychical Research in America. He was an intimate friend of Dr. Richard H. Hodgson, the secretary of that society, of Prof. James H. Hyslop and of other members of this group. Before his death it was the agreement among all of these men that whichever passed over first would communicate with the others. George Pelham not only communicated but gave such unmistakable evidences of his personality, as his friends knew him, that Prof. Myers and practically this whole group dwelt on it with some wonder. There were also cross-references, not only by George Pelham but by several others, and Prof. Hyslop, in his last book, goes into this matter of cross-references in some detail in which the evidence is so conclusive that I do not believe any fair and open-minded man can read these evidences and further doubt that there is something at work behind the veil of the visible that either proves communication between the dead and the living or proves that the mental powers of the living are vastly greater than we have ever dreamed.

I think I should say in this connection that one of the ways in which the skeptics have tried to combat the theory of communication between the dead and the living is to say that it is all due to telepathy between the living, a power that most of the doubters never admitted at all until driven to the necessity of some alternative by the overwhelming evidence piled up in favor of the communication theory. If they would include telepathy between the dead and the living, they would have a better case. But there are many phenomena that telepathy between the living alone will not explain. There are instances cited by Rev. Minot J. Savage, another celebrated American, who became convinced by his own researches along this line. Prof. Hyslop gives a number of cases that could not be explained by telepathy, where no living person present knew of the facts and in some instances where no person living anywhere knew of them. I cannot remember all of these incidents offhand and I would not weary the reader with them if I could—I am covering the general subject.

May I also say that no less a man than Luther Burbank, the plant wizard, was a believer in telepathy and published his experiences in this connection broadcast in magazines and newspapers throughout the country. He said the members of his family depended on this method habitually to communicate when other means were not available or even when they were and that they had so trained themselves in this method that they got sure results.

Returning to our immediate subject of psychical research: There are also a few objections to the theory of communication between the dead and the living that I think should be mentioned. In a social club one day we had as a guest, Houdini, and at that time he was in a controversy with the Spiritualists of the City of Washington. He was full of his subject and offered at this luncheon, at which only the members of the Club were present, ten thousand dollars to any psychical phenomenist, or to anyone else who would produce a psychic phenomenon that he could not reproduce by natural means. That offer, I understand, has been repeated in some magazine by another man in Houdini's same profession, and it was repeated by Houdini during his lifetime on various occasions. Now, such a thing as that is rather staggering to the average believer in psychic phenomena. It was to me. After I had had time to think it over, however, and had considered the remarkable things Houdini had accomplished, I could understand how no one would risk ten thousand dollars against his reproducing anything of any kind in that sphere or any other. Some of Houdini's feats have never yet been explained, and for a mere layman to go "up against" these things requires more temerity than the average layman possesses.

There are certain other considerations — certain other objections—that I think we should take into consideration also. One is that most of these communications have slight value. They

are such as people on earth could not only reproduce, but in most cases in better form, with more evidences of a cultural background, and of more innate worth. Yet we have to admit this: Many of them are just such communications as we would get from our friends as contacted in every-day life, and on the theory that people over there are like people here, perhaps the character of these communications in many instances is more convincing than would be more polished and better formulated messages that would show the result of midnight oil and of careful preparation. I mention these objections to get the whole subject before us.

Now, I am going to refer to one other consideration that to me is fundamental. While there have been cross-references; while there have been evidences of identity that were convincing, and these in numberless instances, there is something about the whole subject that impresses every investigator without exception, so far as I have read and so far as I know in my own experience, and that one factor is the only doubtful thing in my own mind at the present time. I cannot explain it in any way except this, that after death people are in a more subjective state than they are here. That is one conclusion. I am deserting now the realm of fact for the realm of hypothesis; I am trying to explain this elusive factor. In connection with it attention is directed to the later testimony of Col. DeRochas and others regarding the "gaps" between the lives of hypnotized subjects.

It will also be recalled that "Mademoiselle Smith" referred to no memory of the interval between incarnations. This would tend to verify the idea above mentioned, that the dead are in a more or less subjective state, with no objective experiences to remember. Here is another clue that fits in with the known facts. For example it would explain the inconsequential character of many psychic messages, the vagueness as to proper names, the varying accounts as to the environmental conditions, etc. Furthermore it would be reasonable. This life is objective. Why should the state after death merely repeat it? Why should not the two states follow the same rhythm and polarity found elsewhere in nature? Why should not the life after death be a period of digesting and assimilating the experience of the previous earth life? Is life "over there" something like a dream state?

But in that sleep of death what *dreams* may come?

Perhaps the poet's intuition here is wiser than we know. To the discarnate entity the dreams would be real enough, for he would have no means of checking them up and discovering their subjective character. He would know only his own ideas, as we do. His life would seem objective; and if our thoughts actually create forms in the etheric world, each discarnate entity might surround himself with a certain kind of objectivity. The slow march of time would have disappeared for him and would have taken on the speed of thought. In this state the entity

would not only live over the life he remembered, but doubtless vary it in the ways that might have been. He could thus work over the materials left by the last earth life and extract from them all their possible lessons and essence of wisdom, which could thus be taken into the thought texture of the soul as an immortal heritage.

Another view I find shared by most investigators is that the subconsciousness of the medium, to some extent, governs the communication. In other words, we can get a communication through an organism only such as it is prepared to transmit. We are here dealing, not with a mere mechanism, but with a thinking person, using language and concepts on a certain level of consciousness. Obviously, we cannot get through such an organism, through such a thought content, messages that very much transcend it.*

To return to our evidences: We come next to one of the most remarkable documents on this subject I have ever read. It is from the pen of William T. Stead and is entitled, *How I Know That the Dead Return*. Mr. Stead, himself, was an automatic writer, and most of his messages came through his own hand—not all of them. He gives here many instances of commu-

* By the very fact of communicating, the communicator experiences a psychic disturbance; a fact which has been specially noted by English and American investigators. In borrowing substance from the medium, the being takes on limitations as it does at birth by taking on a body of the substance of his mother. By the fact of communication on the material plane he undergoes a kind of relative and momentary reincarnation; accompanied, as in normal reincarnation, by oblivion of his real situation and by the suppression of the greater part of his conscious acquisitions. *From the Unconscious to the Conscious*.—Geley.

nication both from the living and the dead. The communications from the living were verifiable. In many instances the living subject was not conscious of the communication, and yet it related to events in his or her life that proved true. One instance he gives of an especially intimate character. It was of a lady who was on a railway journey in which she was subject to insult. She decided to tell nobody about it, but Mr. Stead got the whole story in an automatic communication from this lady, giving incidents, every one of which was verified with one trifling exception. She said she broke the man's umbrella over his head, and it turned out to be her own umbrella. With that one variation, the circumstances were verified in absolute detail. He gives other cases. I mention this because it dovetails so perfectly into this theory of Thomson J. Hudson, of which I have already spoken—this telepathic communication between the living and the living—the subconscious minds of these living persons and the subconscious mind of Mr. Stead who wrote it out without any conscious direction of his own hand in doing so. I want to get the scientific side of this before us.

In the same way, Stead received communications from the dead, one of which I refer to in detail. He had heard of spirit photography, in which he conceded there are all sorts of opportunities for fraud. These are the counterfeits, but he believed there are also some genuine cases. One spirit photographer, was an old man who was almost in poverty because he had this me-

diumistic power and let it interfere with his business and yet would not turn it to commercial account. Mr. Stead sought out this photographer who said there was a very fierce-looking man, a bearded man, who had come into the studio the day before brandishing a gun, until the medium cried, "I don't want you around here; I don't like guns." The apparition thereupon departed, but when Mr. Stead came in the photographer said, "There is that same man again, but he has not the gun this time; he came in with you." Mr. Stead sat for his photograph and when the negative was developed, there was this bearded warrior standing by his side, a man he had never before seen. Stead said, "Ask him his name." The photographer did this in thought, and the answer came "Piet Botha." Mr. Stead, who had known various men by the name of Botha, had never heard of Piet Botha. He had some question about the matter but kept the photograph, and for some years had no verification. Finally some Boer people from South Africa came to London and Mr. Stead showed one of them his photograph. The man almost jumped out of his seat. He said, "Where did you get that? I did not know you knew Piet Botha." Mr. Stead said he did not know him, and told how this incident occurred. The man was skeptical; he wanted the real account of it. Mr. Stead told him that was the real account. This man departed in some anger, but he referred the matter to others of his group who verified the occurrence in every particular. This was a pic-

true of Piet Botha that they had known. He was one of the first commanders of the Boers and fell in the Battle of Kimberly; his name was Pietrus Johannes Botha; this was a picture of him, but unlike any known photograph.

As a third instance, Mr. Stead had a stenographer or secretary to whom he referred as E.M., and who was so peculiar he thought of dismissing her. His well-known correspondent from the other side was a woman he called Julia, and it happened that Julia was a friend of E.M. She used Stead's hand to write "Do not discharge E.M.; she means well, and she will only be with you a year; she is coming over here." Under the circumstances, Mr. Stead retained her. Every few days Julia would repeat, in other communications, "Please remember that E.M. is coming over this year." It happened in the summer that E.M. had a very serious accident, and Stead thought this a fulfillment of the prophecy, but Julia wrote, "No, she is not coming now." E.M. recovered to the surprise of everyone, and several months passed. The year was almost up when E.M. fell ill with pneumonia and Stead again thought this the fulfillment of prophecy, but once more Julia told him, "No, she is coming not from illness." Within two days of the end of the year, E.M., in a delirium, threw herself out of the window of the hospital and was killed instantly. Now, this does not go on Mr. Stead's word alone. He called the attention of his other secretaries to these prophecies as they were made through his hand,

who kept a record of the occurrences. The death happened on the three hundred and sixty-third day after the first prediction was made.

Mr. Stead gives other instances, one of which concerned the first communication he had from Julia. It was made to a friend she had known in life. This is so circumstantial that I reproduce it in Stead's own language. It recites a circumstance that had no meaning whatever to Mr. Stead and at first had no meaning to the subject, but later turned out to have a very striking meaning. He asked Julia in the first communication to mention something that would be evidential to this friend. He said:

Upon this point I will again relate my own experience. I had two friends who were as devoted to each other as sisters. As is not unusual, they had promised each other that whichever died first would return to show herself to the other in order to afford ocular demonstration of the reality of the world beyond the grave. One of them, whose Christian name was Julia, died in Boston shortly after the pledge was given. Within a few weeks she aroused her friend from her sleep in Chicago and showed herself by her bedside looking radiantly happy. After remaining silent for a few minutes she slowly dissolved into a light mist, which remained in the room for half an hour. Some months after the friend in question came to England. She and I were staying at Eastnor Castle in the west of England, when Julia came back a second time. Her friend had not gone to sleep. She was wide awake, and again she saw Julia as distinctly and as real as in life. Again she could not speak, and again the apparition faded away. Her friend told me about the second visit, and asked me if I could get a message from Julia. I offered to try, and next morning, before breakfast, in my own room, my hand wrote a very sensible message, brief, but to the point. I asked for evidence as to the identity of the transmitter. My hand wrote: "Tell her to remember what I said when last we

came to Minerva." I protested that the message was absurd. My hand persisted and said that her friend would understand it. I felt so chagrined at the absurdity of the message that for a long time I refused to deliver it. When at last I did so her friend exclaimed, "Did she actually write that? Then it was Julia herself, and no mistake." "How," I asked, bewildered, "could you come to Minerva?" "Oh," she replied, "of course, you don't know anything about that. Julia shortly before her death had bestowed the pet name of Minerva upon Miss Willard, the founder of the Woman's Christian Temperance Union, and had given her a brooch with a cameo of Minerva. She never afterwards called her anything but Minerva, and the message which she wrote with your hand was substantially the same that she gave to me on the last time when Minerva and I came to bid her good-by on her deathbed."

Here again there was a slight mistake. Minerva had come to her instead of Julia going to Minerva, but otherwise the message was correct.

Mr. Stead says he then proposed to try for more messages, and asked Julia, as another test of her identity, if she could use his hand to call to her friend's memory some incident in their mutual lives of which he knew nothing. Here is his account:

My hand wrote: "Ask her if she can remember when we were going home together when she fell and hurt her spine." "That fills the bill," I remarked, as I read out the message, "for I never knew that you had met with such an accident." Looking across the table, I saw that my friend was utterly bewildered. "But, Julia," she objected, "I never hurt my spine in my life." "There," said I, addressing my hand reproachfully, "a nice mess you have made of it. I only asked you for one out of th thousand little incidents you both must have been through together, and you have gone and written what never happened."

Imperturbably, my hand wrote, "I am quite right; she has forgotten." "Anybody can say that," I retorted; "can

you bring it back to her memory?" "Yes," was the reply. "Go ahead," I answered; "when was it?" Answer: "Seven years ago." Where was it?" "At Streator, in Illinois." "How did it happen?" "She and I were going home from the office one Saturday afternoon. There was snow on the ground. When we came opposite Mrs. Buell's house she slipped on the curbstone and fell and hurt her back." When I read these messages aloud her friend exclaimed, "Oh, that's what you mean, Julia. I remember that quite well. I was in bed for two or three days with a bad back; but I never knew it was my spine that was hurt."

These are little things, but such as happen between people in life as we know it. Mr. Stead says he never would publish any of this until some member of his own family had passed over. When his son died, whom he had trained to take his place in the world and take up his work, one who was closer to him perhaps than son and father usually are—when this son died, Mr. Stead would not trust his own hand because he thought too much of his own personality would enter into the messages, but through others he got communications so characteristic of the boy, so evidential in minor details, that he wrote:

After this I can doubt no more. For me the problem is solved, the truth is established, and I am glad to have this opportunity of testifying publicly to all the world that, so far as I am concerned, no doubt on this subject is henceforth impossible.

I can only echo what Mr. Stead has said, that to any open-minded man who studies this subject really and honestly, doubt will become impossible. I have already mentioned that when I entered this study I was prejudiced against

the whole subject. I was prejudiced against it because of those fraudulent seances I saw in my youth, but those were counterfeits. There is a real, and it is possible for us to find that real. I have not covered half of this subject that I had in mind, but there are two further points I must touch.

John S. Haldane, in his recent book on "The Sciences and Philosophy," which is admirable from almost every other standpoint, utterly rejects psychic phenomena. He says that while he believes in God as the one underlying reality of the universe, he does not believe in personal immortality. He believes in God's immortality, but personality does not necessarily participate in anything so high and holy as God's consciousness. Therefore, to him personal immortality is only a belief that grows out of the universal desire of all living organisms to persist.

Let us examine this point. What is personality? I do not mean to examine it alone from the introspective viewpoint, but from the objective. What is the personality of William Shakespeare? What is or was the personality of Leonardo, Plato, Jesus Christ? I mention these to give us personality at its highest, at its best, and what personality became in these, it may become in any of us. We have to see it at its highest and best to evaluate it. Is it, therefore, such an unworthy and ephemeral thing as Mr. Haldane and others who write in the same vein would imply? What is it that gives charm to human beings? Is it not personality? What is it that

is the winning factor in life? Again it is personality. One of the Hindoos that Stanley Jones encountered in his missionary work said, in effect, "I have no use for the Christian Church, but there is something winsome about Jesus that draws me to him." Now, winsomeness is a mark of personality.

Personality is the highest product of evolution—the flower on the tree of life. I am not now speaking of your particular personality, or mine. I am referring to this thing through which spirit manifests itself in all of its differentiations and all of its infinity of forms. Is the universe to travail through eons of time, to develop through the evolutionary processes ever higher forms of life, finally culminating in man, only to annihilate them? Is such a thought rational? Furthermore, I do not believe Mr. Haldane or others who talk in his vein have really thought this thing out. What is my identity? Is it not my history, my memory? I was born in a certain place that I have been told about. I was reared in certain surroundings, with certain parents, certain members of a family; went through certain schools; had certain affairs of the heart and experiences that were peculiar to me. Now, through all these memories, I identify myself as myself. That constitutes my consciousness; that and the other identifying awareness—if I may use the word—that I have in my consciousness. Mr. Haldane implies, and certain other authors have said expressly, "It may be that all of these memories go into a com-

mon storehouse." My answer is that any common storehouse that receives my experiences, my memory, all these identifying marks of my individuality, becomes one with me, is identical with me, and is myself.

What is God? Is he not in all things and all things in Him? Does not His universe partake of His nature? Is man, the highest product and, so far as we know, the only rational creature in this universe, excluded from such participation? Are we not taught in all religions and all philosophies worthy the name that God is in us? Yet, says Mr. Haldane, God is immortal. Then is not the God in us immortal?

It may be that only the Godlike of us lives on, or that we are immortal in the degree that we are Godlike; but to place personality beyond the divine pale would seem to involve a very distorted and peculiar view of what personality is. Perhaps Mr. Haldane objects to the word and would prefer, with some others, the term individuality. But, whatever we call it, there is a core of reality in man, and this core of reality belongs to God and is necessarily eternal.

Now, in conclusion: Immortality is proved by two considerations; first, continuity. That is found everywhere in nature. We may not see it, but that is because of a defect in our senses. Continuity is discernible; there is no break. Everything proceeds out of something else. I am a fact. Shakespeare is a fact, or Plato, or Jesus. They were facts before me. If they are facts, they are facts before birth and facts after

death, because the continuity cannot be broken. Not only so, they were very conspicuous and tremendous facts in the intelligible universe, and the intelligible universe is quite as real as the phenomenal universe, perhaps more so, for it partakes more of the divine nature.

That is the first convincing proof of immortality. The second is conservation. As far as we can discover in the physical universe, there is perfect conservation. That is reasonable because nothing can disappear. There is nowhere for it to go. It cannot get out of the universe. That is a closed system. The universe itself is all of it, all the time. Therefore, there can be no real loss. Nothing can get out of this closed system. It is all there; it was all there from eternity. It must be so in the nature of things. Now, experience is a thing. It is the highest thing in the human world and, so far as we know, the highest thing in any world. Like personality, it is a flower on the tree of evolution.* Science believes in the conservation of energy. It cannot prove that because it could only be proved empirically, that is, it could only be proved through examining all the energy in the universe, and that is impossible. But it is reasonable, and it works well. The theory of the conservation of energy has been very fruitful in the scientific world. It has never failed. It has enabled science to find more facts and, therefore, it is used and held true. Very well; I believe

* Mr. F. H. Bradley concludes that the universe as we know it consists of experience.

in the conservation of experience. I cannot prove it, but it is reasonable and works well. The only way there can be conservation of experience is through personal immortality. If you say I transmit my experience through books or through talks, newspapers, or conversation, I say I transmit only a very small fraction of it in that way. If you say I transmit it through my children, the answer is, I transmit only a very small fraction in that way also, and that, indirectly and not consciously. Even if I have transmitted all of it in that and other ways, however, science teaches that some day the world becomes uninhabitable; it freezes up; it becomes too cold to sustain life; therefore, it becomes a dead world as the Moon is now and as Mars is on the way to becoming. Very well, then; if I transmit all my experience, it is only for a brief time; finally it dies out and all is lost. Such a thing is unthinkable.

Intellect is proving what intuition always knew—man's immortality.

This brings us to the final, or pragmatic, argument. A belief in immortality is inferentially and morally proved valid because it is best for man. That is again inferentially proved by the fact that most men hold it. Conversely anyone who seeks to undermine it, through mere pride of intellect, is an enemy of truth and good, as well as of human happiness.

Those materialists and atheists who interfere with the natural faith and hope of the young in our colleges are insofar anti-social and enemies

of man. They adulterate and infect the human mind with the negative elements of doubt and despair. After all Reality consists of experience and of human values and these exist only in a person. Hereafter Philosophy must occupy this high ground of Humanism in an effort to conserve experience and values. There is a will to believe as William James discovered. He who disturbs and defeats this will is to that extent an enemy of God and Man, and he does it all for a negative purpose. In other words he is doing the devil's work of destroying hopes and ideals, especially in the young. The occultists tell us that the forces of darkness thus endeavor to confound and confuse human ideas and progress. And we are told on a better and higher authority that it were better for him who thus offends that a millstone were tied about his neck and he were sunk in the midst of the sea.

For the good of man we must hold aloft the banner of God and Immortality.

CHAPTER X

METAPSYCHICS

The study of psychic phenomena is becoming a special science, or, to be more exact, a group of special sciences. These have to do with the inner forces of man, the powers of the soul itself. They include clairvoyance, clairaudience, telepathy, psychometry, the creation of thought forms in ectoplasm, materialization, soul memory of past lives, communion with the dead, etc. In Paris there is already in existence an International Metapsychic Institute devoted to the study of these and kindred subjects. It was founded by such well-known scientists as the late Dr. Gustave Geley and Prof. Charles Richet and counts among its supporters other scientists equally celebrated, members of the nobility and some of the most noted men in France. It has now devoted many years to the investigation of clairvoyance, materialization, psychometry and especially the creation of living organisms and other thought forms out of ectoplasm. These researches have been carried on in truly scientific spirit, carefully safeguarded, and whenever possible, the materializations and ectoplastic forms have been photographed. Similar work has been done in Warsaw and also in Germany by Von Schrenck-Notzing and others. Several large

books giving the records of these experiments have already been published in French and German and some of them have been translated into English.

It is impossible longer to ignore these activities. They are being carried on all over the world. They indicate that mankind is on the borderland of a new knowledge. They constitute one more approach to the spiritual universe, which we have already been nearing through the new physics and relativity. In past ages men have depended on religion, and faith, on poetry and idealistic philosophy to tell them about the things of the spirit. Now these surmises and dreams are to be placed on a more secure basis. The things of the soul are to be as definitely known as the objective world of matter and of sense-reactions.

There are certain other facts that have been developed along a slightly different line. I have already referred to memory of other lives. Maeterlinck writes of investigations carried on by Col. A. DeRochas. Among other things, Col. DeRochas hypnotized several people, and one of his experiments was to carry back the subject to his past life, to the memory of details. In this way he carried one subject back to infancy, but did not stop there, and the things remembered antedated even his objective memory. Most people do not remember objectively until two or three years of age, but these memories went back into babyhood, and back of that. Then, there was a gap. I call especial attention to this: There

was a gap, and then the subject awakened in a new incarnation and spoke, in one case, the same language, but it was a different personality of, say, a century or more before. It went back through that life, after which there was another gap, and the subject went back through a third life. Col. DeRochas did this, not only with one subject, but with at least two, and I think more. Maeterlinck, as I remember, gives two or three. They were duplicated by experiments carried on in this country. These were in New York, and I believe have been published. I have heard something like them, but I heard of these as a result of a private conversation with an army officer, somewhat well-known, who participated. Again, through hypnotism the same thing was done, as by Col. DeRochas. In the instance here mentioned, a man bridged the gap to another life and awakened, speaking a different language—speaking French. He was a soldier in Napoleon's army and had been killed in a certain action. He especially mentioned a lieutenant of his company and the incident of this lieutenant's death. He described the scene; he described the buildings; he gave the lieutenant's name, as I recall, and other incidents, which were afterwards verified in detail. Now, I mention these cases because they have a bearing on the subject of re-incarnation. That is not, perhaps, in the ordinary acceptance of the term, a branch of psychic phenomena, but it has a relation thereto. I have given three instances, and these were all developed by scientific investigation. First, that

recited by Theodore Flournoy; second, that mentioned by Maeterlinck, as having come from Col. DeRochas; and, third, this case that was investigated by a group in New York. These are all fairly well authenticated.

As to reincarnation, I presume it has been believed in by more people than any other form of immortality. I should say that the majority of the religious people of the world now believe in it—all Brahmans, all Buddhists, practically all Orientals outside of the Mohammedans, have as one of their religious articles of belief a firm faith in re-embodiment in some form. It was held by some, at least, of the fathers of the Christian Church. Of course, it is no proof of a thing that many people believe it, yet, as Herbert Spencer says that implies its reality. There are two features in connection with this doctrine, however, that I want to bring to the reader's attention: In this book I am not advocating any particular theory, even though my own mind inclines me to accept it, but am seeking only truth and, therefore, I try to bring all the facts, or the logic of the situation, to bear. There is one thing in connection with the idea of reincarnation that has disturbed me, and it is this: Death to most human beings is a terrible thing. However we may seek to gloss it over or philosophize about it, it is a stark reality from which we shrink. We might as well be frank and honest about it; yet if reincarnation be true, there is a worse death and that is rebirth. Nearly everybody believes in immortality and believes

in continuity of consciousness beyond the grave. In other words, we carry our identity over. Not only so, but most of us believe that the state after death is more desirable than the one here. We call it heaven, and the very connotation of that term, heaven or paradise, means everything that the soul can desire, as a recompense for all we have suffered or lost or sorrowed over here.

Now, I want the reader to follow me: Rebirth means, therefore, another death with a loss of continuity or identity, and a passage into a less desirable state. That would be infinitely worse than death! Let us be honest; think it out; face it; image it. We can only get truth by facing all facts.

There is one other difficulty about this doctrine of reincarnation, and this is a sociological reflection. I point it out in the introduction. A belief in reincarnation, like ancestor worship, turns men's faces to the past, the result of which is a static civilization. As a proof of that, consider the Orient. Under ancestor worship, China has stood still for five thousand years; India has done practically the same thing. The progress of the world has taken place in the Occidental nations. China and India were flourishing civilizations when Europe was populated by savages, yet today the civilization of Europe has gone far in science and philosophy, in art, in literature, in discovery, in invention, in sociological and scientific progress. In two thousand years the Occidental nations have progressed more than the Orient has done in ten thousand

years. "Better fifty years of Europe than a cycle of Cathay."

I only mention these things to get all the facts before us. I am sympathetic with the idea of reincarnation; it appeals to me in many ways and yet, in a philosophical study of this or any other subject we must have no pre-conceptions, no prejudices, but must seek only for truth. That is the spirit in which this whole study is being made.

If reincarnation is true and we do return to earth in other bodies, then it must be that we are unconscious of our past lives for practical reasons; that memory would distract our minds and interfere with the purposes of our being here; that such memory, when it comes, is in a way a gift of God and a divine awakening; and that in consequence there should be no attempt to force it before its time.

There is one more obstacle in our way, as sincere truth seekers, in this whole idea. It grows out of the fact that most of those who claim to remember past lives, are seemingly only content to identify themselves with illustrious people. That might not be surprising, for fame is a reward of service and only those who have greatly served, we might say, would have gained immortal memory. Yet there is a further difficulty. Many of those who claim to remember, think themselves the *same* person. Very many, for example, think themselves Napoleon. This is evidently illusion in which both the ego and sub-conscious are involved.

Swedenborg says somewhere that he beheld spirits of the great giving off emanations of themselves which were later incarnated in the new-born on earth. At least, that is my memory of the passage, although it has been years since I read it and I am not now in position to verify the reference. This idea might be regarded as at least plausible for four reasons: First, these emanations would be like those the older religions suppose God to give out; second, they would be analogous to the influences radiating from the lives of great men on earth; third, they would correspond to earthly parentage, which may involve a number of offspring; and fourth, they would account for these folk who think they remember themselves to have been the same famous personage. Swedenborg's idea, as far as I remember it, is that each of these emanations is in a way a reincarnation and yet, after the nature of emanations, does not diminish the soul from whom it proceeds, who remains with his complete identity in the other world.

This does not necessarily represent the writer's view which will be developed later, but it does indicate something of the difficulties surrounding this entire subject; and, also suggests the practical wisdom of the Christian, Moham-medan and Hebrew religions in leaving out this factor, at least until the final "unrolling of the scrolls" when the divine mystery is made plain.

The consideration in favor of reincarnation are that it coincides with the rythmical movement we behold throughout nature; that it fur-

nishes a logical and understandable scheme for immortality; that it is based on essential justice; that it accounts for seeming inequalities, as well as for great souls; and that it harmonizes with what many regard as their own soul memories.

Here is another consideration. The supposed memories of these hypnotized subjects of Col. DeRochas and the New York group, as well as those of "Mademoiselle Smith" would indicate that the length of the period between death and birth is about equal to that between birth and death, which is what we should expect in a regular rhythmic movement, and would correspond to the rhythms of nature such as winter and summer, sleep and waking, etc. The subjective state would also dull the terrors of rebirth, if it did not blot them out altogether, rendering the transition more or less unconscious and automatic. As to the Theosophical belief in a period of fifteen hundred years between lives, this idea is now generally abandoned, one reason being that it does not represent a true rhythm. Inasmuch as the time value is utterly changed in a subjective state, the discarnate period might seem relatively much longer. Some such hypothesis would seem necessary to account for all the facts.

One evening in Florida I submitted the question of reincarnation to an automatic writer with a result that was somewhat startling. The views not only differed from those of all present, but in some particulars, from any I have

ever read. This is the answer that came through:

The truth is that you of that plane are not expected to know too much for your own good; but that, if you would know, then the following extract from the local convention can be given to you.

"Life is continuous and is ever changing; but to let a small (word marked out and illegible) agreement into your lives we can say that to live is a privilege to some but only to some is this granted. You are fortunately favored for a definite purpose but to suppose that all souls reincarnate is merely supposition and has no real basis in fact. Let those who are ready for this take heed for small groups of men and women come often to the earth for a certain definite purpose, and to this end few are granted the privilege. So you see that a greater life awaits the soul that is sufficiently aroused on other planes of being than the torturous one of earth."

Give this message if you wish to quote us, but remember that we, too, are seeking a definite rule for all life and we, too, are seeking to reincarnate in this manner. Life is a small beginning for the soul. The birth, you might say, for it is in growth, that it gains strength on other planes. The promise of rebirth is denied to those who are not serving God in some way, but life is always continuing, never fear for that.

If we give the above credence, it would indicate that those on the other side of life know little more about reincarnation than we do here. It would also suggest a possible and rather interesting explanation. Suppose that the view of the Theosophists is right, that in the great majority of cases the period between births is very long, as long as fifteen hundred years. In that event it is altogether possible that entities on the other side, at least those recently dead, would know nothing about it. But suppose fur-

ther that a smaller group reincarnated much more frequently for a special work. There might be knowledge of these especially if, as in this case, there was actual contact with one of such special group, who was making inquiry and thus calling attention to the subject. Some such possible interpretation is indicated by the statement in the supposed communicaiton: "You are fortunately favored for a definite purpose," etc. All of this is more or less conjecture. Personally, I am only sure of one thing: That the individual does not begin with birth any more than he ends with death.

As to the other branches of metapsychic science, the mass of data has grown too great to be disregarded. There are now records of clairvoyance that are so circumstantial and well-authenticated as to be convincing even to the most sceptical. There is something in some men and women analogous to radio-receptivity that enables them to see and hear at a distance. While there may be only a comparatively few mediums gifted with "second sight" in these the faculty is so clearly and definitely proved that science must take note of it. When we come to analyze this faculty, the possession of it in people of sensitive organization is not so surprising as it would at first appear. If every sight and sound has its effects, even though infinitesimal, regardless of distance, what is to prevent a sufficiently sensitive organism from selecting out and amplifying these minute disturbances or vibrations in the ether exactly as is done by radio? Especial-

ly would this appear possible, if kindred interest or thought sharpened and heightened the percipient's receptivity. At any rate, the fact is sure, whatever the explanation may be. Science is only invading the invisible universe a step or two further to bring these added phenomena to light.

The same is true of psychometry. What is this but a finer and higher kind of photography? Not only has the Metapsychic Institute established cases of unquestioned psychometric ability, but the American Geologist, Prof. Wm. Denton, Dr. Joseph Rodes Buchanan and many others had previously brought to light evidences of this supernormal faculty in some people. If a specially sensitize film may take a record and hold it indefinitely, why may not other forms of matter? And if the eye may behold these records when developed into photographs why may not some finer sense detect them without this objective picturing? It has long been a matter of common belief that a record of events is impressed on the surroundings, that every room carries a history and that even handkerchiefs and other inanimate objects bear the aroma of their possessors and all that is needed is a higher degree of sensitivity to detect these. If a dog may follow a faint scent for long distances, why may not a deeper and finer soul sense discern even more intangible clues and traces? These things are not new. They have been known for ages. Now they are only being systematized and verified.

As to apparitions, materializations, thought forms, and the like, these too have their place in the traditions and folk lore of the race. Almost every neighborhood has its haunted house and every countryside its ghost story. God must create by the power of thought and if man is made in His image, man must in some degree partake of this power. At any rate, forms that may be photographed are real enough to be taken into account by science. These new spiritual sciences have come to stay. They have been known in India for ages, also in the esoteric schools of other lands. Some of them may be a bit doubtful, but all of them are not, and all of them point in the same direction—toward the spiritual universe.

We should have, and doubtless soon will have, metapsychic institutes in England and America. While we should not be too credulous, at the same time we should not be so dull and obtuse as to shut the door on God and on things spiritual. A new age has dawned in which these things have come into the circle of man's common knowledge.

The name metapsychic is most fortunate. Just as metaphysical indicates above nature, so metapsychic means above the psychic. It is probable that the souls of the departed are not in the psychic realm, at all. At best, they only pass through it on the way to the spiritual. What we encounter in the psychic are only nature spirits, elementals and the like. Our own subconscious would have ready access to these. It is

probable also that everything which comes through the medium originates with the medium and with these psychic entities; except telepathic impressions. If it is true that nearly all mediums are more or less neurotic and on the verge of dissociation of personalities, so that something akin to a secondary self dramatizes the part of the so-called discarnate entity, that in no way invalidates our theory as to telepathic communication with our dead. The part of the medium is simply to bring the message over from the subconscious to the conscious.

The name metapsychic is fortunate in another way. All these higher powers belong to the soul and not to the organism. Again they are from a realm above the psychic. In mental healing we are learning more and more to depend not on the brain-mind with which psychology has to deal but on the Absolute that works through the spirit. Here is also where clairvoyance, clair-audience and the rest of these soul-powers originate. This is the realm of the super-conscious. This is the higher mind, the better self, the Christ in us. Here is to be found soul memory. Here resides the man out of heaven.

One evening while playing solitaire, it occurred to me that the cards are only symbols and that, when shuffled or in a state of chaos, they represent nothingness. Chaos, caprice, change all represent negativity or nothingness. Only thought is reality. This introduces order and meaning. From this I went by degrees into a state of ecstasy in the realization of Reality. I

seemed to transcend time and space, to comprehend all time and space as one. My mind seemed to merge into the Absolute. I thought I could not continue to live as a man in that state so gradually I again built up a barrier or differentiation in my thought. But for those rare, exalted moments I was veritably in the consciousness of God and thinking God's thoughts. And for days thereafter I was unconsciously referring everything to the Absolute. I was looking with more or less wonder on the fact that I was this man in this place, was seeking to search out the roots of all thought and to discover the origin of self and of difference. Birth and death were swallowed up and I was in a state of joy unspeakable.

After I had become familiar with this new sense, I knew that it was with me for life and that I could not live in any other consciousness. Everything on which I looked became God. I knew what Jesus meant when he said, "I and the Father are one."

We are told that "He descended into Hell." Hell is a condition of mind in which there is no order or meaning in anything. It involves the keenest agony conceivable to the mind of man. It is insupportable and yet must be supported. "He ascended into Heaven." Here He beheld everything divinely in order and therefore everything gave pleasure. "And God looked upon all, that He had made and behold it was very good." The lost word is the Absolute. So long as we do not see everything in the light of the Abso-

lute the meaning of the word is lost to us, and the meaning is the word.

Many years ago I saw the universe as a seamless robe being woven in the loom of time. Ever and ever it grew in everlasting unfoldment. Years later one morning I awoke with the sense of a new kind of motion. It was from within outward, a motion of becoming, like an evolving or unfolding spiral. It came into manifestation, containing its own other in the form of all possible variation and complexity.

There is a wonderful new book that I especially commend to all readers of *Invading the Invisible*. It is *The Projection of the Astral Body* by Sylvan J. Muldoon and Hereward Carrington, London: Rider & Co., Paternoster House, E. C., 1929. This covers a subject that may well be added to our special psychic sciences which we are considering under the general heading of this chapter on *Metapsychics* and that should certainly be included in the wonderful new Spiritual Science being given to the world. It concerns the projection or exteriorization, of the astral, or etheric, body, and lays down methods by which this may be brought about. It is entirely scientific, since Mr. Muldoon has been using these very methods for very many years, and through them has succeeded not only in effecting a multitude of such projections of his own etheric double, but has been able to retain complete consciousness in a great many instances during the whole enchanting process. By all means read this most remarkable book,

if you can possibly do so. Even if you do not choose to practice these methods yourself, it is well that you should know all about them. It is the opinion of the authors of the work mentioned that many of us do exteriorize our etheric bodies, night after night, even though we do this unconsciously. The book is simple, clear and charming from the literary point of view, and makes no claims except such as have been proved true by Mr. Muldoon through repeated tests, conducted through a period covering almost his whole life. These make of his treatise a valid science in the best sense of the term. Mr. Muldoon goes further in this field than any one has ever gone before him. He verifies very many of the conclusions put forth in *Invading the Invisible*, all of them, in fact, relating to this particular line of study. The beauty of all of this is that he has proved everything he gives out by actual experiment. For one thing Mr. Muldoon states that on the etheric plane thought actually creates form and that the statement, "As a man thinks in his heart, so is he," is literally true. He not only has seen the cable connecting the physical and etheric bodies but describes it in detail and shows how it pulls the finer body when only about eight feet away, what he calls within "cable length," and how beyond that, while there is still a thin connecting thread, the psychic body is comparatively free. He also shows how the super-conscious, or what he terms "the crypto-conscious," operates, how it moves the etheric body with the speed of light and at

other intermediate speeds down to that of ordinary walking, how it penetrates and passes through all ordinary matter, how it slightly contracts or expands the etheric body and levitates it to any desired height, how this body is covered by an aura from which thought can create any desired apparel, how it emits its own light, how it communicates telepathically with other entities and how it may see and hear, clairvoyantly or clairaudiently, at a distance. He verifies the experiments of those who have tested the weight of the etheric body and determines it to be about $2\frac{1}{4}$ ounces. He shows how there may be obsessions and that many cases of insanity are due to such. He verifies the teachings of Jesus in another startling way. I quote:

The phantom must learn to think correctly, for a man's thoughts govern him. It is thought which sustains the astral body! Do you think the astral phantom walks upon the floor of a house because the floor holds him up? No! Never that! He is independent of the floor; he does not make contact with the floor at all. Yet he can walk upon it. Why? Merely because his thoughts sustains him.

He has always walked upon floors in the physical, and, through force of habit, thus learned in the physical—habit rooted in the subconscious mind—he is sustained. The habit of walking upon a floor permits a phantom to do that in the astral—holds him on the line of the floor. So, the desire to walk upon an upper floor could sustain the phantom and allow him to do that. The subconscious Will regulates the weight of the astral body, causing it to rise, to fall, or to remain at any given elevation. The conscious Will can do the very same thing also.

All this can never be explained by mortal mind—how thought creates or makes "reality" in the astral world. Imagine walking on the upper floor of a house, as if that

floor sustained you, and yet not make contact with the floor! You would naturally suppose this would be a strange sensation. But it is not. In fact, it is unnoticed by the phantom; but if one begins to think about it—as I have, many times—down through the floor one goes. Why? Merely because the projector thinks that the floor, not making “contact” with him, cannot sustain him!

One goes along, unconsciously walking in this manner, because the subconscious Will, through habit, actually holds the body in its position. You do not think of walking in the physical, do you? Neither do you in the astral. It is habit; in other words subconscious expression. Similarly, when you walk upstairs and downstairs, in your astral body, you are not aware that you are not actually stepping upon the stairs. But think of it, and down you go!

All this has a striking resemblance to the Bible story, in which Christ walked upon the water—His thought sustained Him; but when Peter, who stopped to think about it, tried to do so, down he went! There is not the slightest doubt that Christ could do this. He could do it in the physical body by levitation. He could do it in the astral body naturally—merely by thinking. He could; and His thought sustained Him, as thought will sustain each and every one of us when we depart from our physical anchors.

The new spiritual sciences are making progress. Man, by invading the invisible, is entering a New Age.

Among these new spiritual sciences are not only the various branches of metapsychics dealt with here but a more spiritual psychology, physics and medicine, a more Christian form of government and sociology. Spiritual healing, brotherhood, peace and everything in the plan and program of Confucius, Buddha and Jesus, that leads up to the Kingdom of God on Earth and the more Divine Civilization will be parts of this new Culture.

This is a work for a new and higher kind of institutions of learning. Education in the past has been one-sided. It has left out the spiritual and moral nature of man. The new education will more nearly train the whole man. It will teach us how to remain well, physically, ethically and spiritually well. It will teach us how to heal the body and know the soul, how to govern ourselves and love our neighbor, how to remember things of the spirit and to find God.

CHAPTER XI

PSYCHOTHERAPY

As we progress in this inquiry we get on more familiar ground and our factors are of more practical meaning and use in everyday life.

In almost every age of the world's history, even among primitive peoples, mental or spiritual healing has been practiced. Among the American Indians, this was one of the standard methods employed by the medicine men. Similar conditions obtain among many primitive or semi-civilized peoples. In Greece, where the modern science of medicine had its rise, spiritual methods were quite as much in vogue as material remedies. This condition continued throughout the Middle Ages, to some extent. In the Catholic Church, which was the only church of those days, miracles were wrought by means of sacred relics. We now know that it did not matter whether these sacred relics were genuine or not so long as the patient believed them to be so. In the same way the magic practiced among primitive peoples, in many cases quite elaborate, was intended to impress and influence the patient, and if it did this, the result was the same, however irrational or fantastic we may regard the method to be.

In our own day, interest in this subject was

revived by what we now know as hypnotism, at first called mesmerism and by various other names. During the investigation of this subject it was discovered that there was a therapeutic factor involved and that hypnotic subjects could be healed by the suggestion of the operator.

Out of this discovery has grown the modern movement. Thomson J. Hudson, whom I mentioned in my last chapter, wrote one of the most illuminating of the early books along this line—*The Law of Psychic Phenomena*—in which he deals, from the scientific aspect, with the power of the subconscious mind over the organism, and identifies this method of healing with that used by Jesus Christ. I advise everyone who has not read that book to do so. It is in one sense a primer of this whole philosophy of mental or spiritual healing.

Since that time the new philosophy has extended into many different cults and into practically every land upon earth. Christian Science numbers its disciples by the hundreds of thousands, if not the millions. New Thought, Divine Science, Mental Science, The Higher Thought, The Unity Movement, The Church of Truth Movement, Homes of Truth, healing circles in orthodox churches, etc., have all grown out from this original development. It is impossible that so many people would follow an unfruitful philosophy for so long a time. Therefore, the mere fact of the growth of this method of healing, which has not been equalled, so far as I can discover, since the days of the early

church, is, in itself, a proof of its efficacy and the validity of its truths.

Now, science has entered into this field, and that is the reason I am considering the subject, because this series of lessons is an attempt to gather up the recent results discovered by scientists, and give them a universal meaning. To-day, we can scarcely pick up a medical treatise that has not one or more chapters on psychotherapy. The method employed by the scientific world in treating this subject is somewhat different from that of these various new religions, as they are sometimes called, that I have already mentioned. In the scientific world, suggestion is the sovereign method. Suggestion takes the place of hypnotism. It was found that hypnotism was no longer necessary; that there are certain undesirable elements in hypnotism, such as subjection to another will and robbing the subject, therefore, of the right to his own organism; the right to the control of his own life, to some extent. As I say, this has been discovered to be unnecessary—the same results can be obtained if the subject has faith. That is the point. The only thing that hypnotism did was to remove the objective mind out of the way with its doubts and skepticism and erase its wrong education—its belief in the material, and other complexes that entered into the objective consciousness. It is my contention that complexes can appear in the objective as well as in the subjective mind. We are all more or less subject to such complexes.

Now, through this method of suggestion, modern physicians are supplementing their material treatments. In some hospitals we find hypnosis still used but only, so far as I know, as a substitute for the anesthetic, as an agent to produce unconsciousness. In some cases hypnotism is employed in that way. As a therapeutic agent, so far as I know, it is being largely abandoned.

Mental healing has always been recognized among real physicians. The celebrated Dr. Hack Tuke of England wrote of hundreds of cases, concerning which he gave details. These had been healed by mental or spiritual means and that long before the rise of any of the modern healing cults.

Nearly all physicians at times give bread pills or other innocuous doses containing no medicine whatever. So well-known is this practice that these things have a name. They are called placebos. And they seem quite effective in a number of cases. One ignorant woman was healed by the placing of a thermometer in her mouth. She mistook that for the medicine, and great was her faith.

What I am saying is not in criticism of material medicine, and yet it is amazing the way in which the methods of treatment in material medicine have changed. They have radically changed since my boyhood. When I had anything the matter with me, I was given large doses of very bitter and nauseating stuff. I could not understand it then, but I begin to understand it now. Psychologists tell us that it is

necessary to get the message over to the subconscious. All I can say is that if those doses had any such effect on the subconscious that they did on the conscious, the message got over. And the message, let me add, was supplemented by suggestion, either expressed or implied, that those doses were good for what ailed me.

So we discover that even without intention mental methods were employed then. I begin to suspect that they have entered into the practice of medicine from the beginning more largely than we thought. I remember a case in my own boyhood when I thought I was ill. They sent for a doctor and as soon as I knew he was on the way I got better. The doctor was usually a cheerful individual, benign, benevolent, who radiated confidence. The very fact of his supposed learning and mastery of the ills of the flesh was a suggestion to the patient in itself. That must have been a factor, in view of the ways in which material medicines have changed during all of these years. At about this same time in my boyhood I remember that the patient was hermetically sealed up. They thought fresh air harmful, especially night air—that was poison. So the windows, in effect, were nailed down and the doors kept closed. Then, again, the patient was not fed, especially in fever cases. It was thought fatal to feed a fever patient because that added to the fever. At the same time the neighbors had a way of showing sympathy that I cannot but now suspect had in it an element of malice and a propensity to glorify in one's own escape

from the ills of others. There is something in the human mind that, as we say, pats itself on the back because it is not as unfortunate as somebody else. This factor may have entered into the minds of those neighbors, chiefly old ladies who went in to cheer up the patient and, in so doing, practically wept over her and told how some other patient whom they had known had had similar troubles, and the dear soul had passed on. As I say, all of this was intended in the best way, perhaps, to cheer the patient up, but the suggestion was one at which the modern psycho-analyst or psycho-therapist would stand aghast.

I mention these methods of an earlier day, and I go no further back than my boyhood, to show how they have been revolutionized. Today, we do not give large and bitter doses of drugs. I was in a tuberculosis sanitarium in the State of New Jersey a few years ago and they told me there that they no longer used drugs to any extent. They had a few specifics which they employed rarely. I asked them as to their method. They said, "Well, first we give the patients all the fresh air possible, night and day, winter and summer. They sleep with the windows wide open. They go out for long hikes if they are able, in the snow, as well as in the sunshine. They are fed liberally and they are not allowed to talk to anybody about their symptoms. Their minds are diverted to other and more cheerful subjects."

In every one of the four particulars I have

mentioned the methods in use in that sanitarium were exactly the opposite to what they were when I was a boy. If we go still further back we will find changes as radical. I live within a few miles of Mount Vernon, and it is a tradition in the countryside that George Washington was bled to death. Washington was a particularly illustrious patient and therefore, no doubt, the doctors were more numerous and more assiduous than they would have been in other cases, and they bled the General for a slight cold that had been contracted in riding about his plantations in inclement weather. Today, we do not bleed patients; on the contrary we bleed other people, and infuse their blood into the patient's veins. So there again, the method is exactly opposite to what it was then. Someone tells a very touching little incident of a case of transfusion in New York. There was a little girl who was pronounced a victim of anaemia. She had a rosy-cheeked brother and the doctors, therefore, decided that there should be a blood transfusion from the veins of the healthy boy into the veins of the anaemic little girl. The two small figures were strapped side by side on their cots and, as is usual in such cases, the doctors first asked the boy if he were willing to have the operation performed. He gulped, but nodded his assent, and thereupon an incision was made and the blood stream flowed from one child to the other. The doctors were all eyes for the patient and practically forgot the little boy but one of them, glancing at him, saw that he was under a very

great tension. He was growing white, and finally, the little chap plucked the arm of the interne and whispered "Doc, when do I croak?" It appeared that he had heard that blood is the life-stream, and that one who loses blood must die. Yet he had given his assent in face of that belief. "Greater love hath no man than he who gives his life for his friend." There is another Bible text that also applies to this case: "The Kingdom of Heaven is like unto a little child."

With this continual change in the methods of material practice it must be that the factor of faith of the patient in his physician and in his remedies has been a therapeutic agent in the past as now. In contrast to that, I refer again to the methods of spiritual healing which have not changed, either in method or in principle, from the days of Jesus Christ to our own. We all remember the house that was builded on the rock and that builded on the sand. I think each of you can make his or her own application.

Now, there is a philosophy of healing and I prefer to illustrate this by a simple everyday example. Take the case of a common wound. We will suppose that I have a cut in my body. What happens? First, there is a great blood flow, but that gradually assuages itself. The blood thickens and clots form a protective covering. We call it a scab, which serves the double purpose—not only to prevent the further effusion of blood but to protect the wound from outside infection. Then, there is a fever set up at this point which indicates intense activity, and this

activity can be observed in other ways. The whole energy of the system seems to be directed to the injured part, and there are hurrying relays of blood corpuscles and of the scavengers of the blood to this point to prevent infection and to carry on their needful activities. As another step in this process, the wound is isolated from the whole system so that none of the toxic poisons from it shall get into the general blood stream. Then the injured tissue is dissolved and expelled and new tissue is builded into the wound on almost the exact pattern of the original tissue. If we examine this with a super-microscope, we are amazed at the details of this process, for these tissues are intricate—marvellously so. There are the skin tissues; there are the muscular tissues, so finely organized that science never yet has discovered how it is that muscles act. Great volumes have been written on the simple subject, "The lifting of the arm." Then, there are the blood veins and arteries whose ramifications are so fine that they go to every cell of the body, and there are nerve tissues. Science has never yet discovered just what a nerve is or how it is actuated. It used to be supposed that it was a mechanical process and later that it was a chemical process. Now, the belief is that it is something akin to an electrical process, but nobody knows for sure. These nerves send out filaments which, in turn, go to every cell, to every organ, and there are two sets of nerves—the sensory nerves and the motor nerves. There are many other tissues equal-

ly delicate and marvelous, yet all of these are builded into their right places.

The first point of this process is that every step in it is intelligent—highly intelligent—and intelligent action, or a series of intelligent acts directed to a given end, presupposes an intelligent agent. The only intelligent agent we know anything about is mind. Therefore, we are justified in assuming that mind is at work in this whole healing process. Not only that, but there must be a pattern or an archetype or a specification on which this new tissue is builded. That pattern cannot be physical because the physical pattern was expelled with the suppuration of the injured tissue. Where, then is it? Where is this pattern—this model—on which the new tissue is erected so accurately and put in its exact place? Again, we must resort to mind—the only thing that can fashion a specification or a model. It exists somewhere, therefore, in the thought. We are not conscious of it, but it is more intelligent than we could devise with our conscious minds. Now, the whole amazing process revolves around such simple examples as I have given. A few years ago we were thrilled—I was—by the fact that the engineer, Mr. C. M. Jacobs, succeeded in driving a tunnel under the North River, starting a gang of workmen on the Jersey side and another gang of workmen on the New York side and having these gangs, that worked independently of each other, meet under the middle of the Hudson River within an inch or two, both horizontally and

laterally—in an almost exact junction. That was a marvelous piece of engineering. But in the case of this wound that I mentioned, if we could examine it with a super-microscope, we should find a considerable interval between the two sides of the wound where the injured tissue has been sloughed off and, relatively to the size of these nerve fibres and arteries and veins and muscles, and skin tissue, and all the other component parts that enter into that wound, meeting not approximately but absolutely—a finer piece of engineering is evidenced than that of the tunnel under the Hudson River. Again, it is only mind that can supervise and design such marvelous results.

If anybody asks me if I ever saw or knew of a real case of mental healing, I answer in good faith and without any play on words “I never knew of any other kind of healing except mental healing, because such never existed.”

Now we come to the old Hermetic idea that this is a mental universe. I add to that one other fact that has a more intimate bearing on our subject—man is a mental being. It is man's thought that gives him supremacy and distinguishes him from all the other orders of life. It is man's thought that gives him mastery; physically speaking, he is one of the most defenseless and helpless of the organisms in our world. Through the power of accumulating his experiences, of discovering laws that govern his environment, and, therefore, enable him to modify that environment, man has mastery over all

other forms of life. I wonder if we have ever reflected seriously on the power of thought—and I refer now to our human world? Thought builded this city; thought builded this civilization; thought made all the inventions that are for the convenience and comfort of modern man; thought gave us, in our own day, the telephone, the electric motor, the steam engine, the airplane, the radio—thought is the most powerful force man knows. If this is true in the human world, why is it not more true in the world at large?

If man is, therefore, a mental being, then he should not only be master of his environment, but master of his organism for in one aspect his organism is a part of his environment—the most important and vital part of his environment. That he can do this is proved by the slight advances we have so far made in this art. May I inject at this point a correction? We have talked a great deal about the subconscious mind or the unconscious mind or the extra-conscious mind. All of these terms, in a sense, are misleading, for there is only one mind. For practical reasons, this functions in different ways, but I am convinced that what we call the unconscious mind is never wholly unconscious. This is proved by a very simple illustration. You set yourself to awaken at a certain hour, and generally do so. I have tried that experiment in a number of ways and have had striking results. It did not always work, but it worked in enough cases to convince me that it could not be due

to chance. Now, what is the probable truth of all of this: The reason we can awaken at a certain hour is that we are, to a certain extent, conscious all the time. We do not know just how this is true, but if we can go back to some of our previous chapters we shall discover that there is a primary method of knowing—of mind action—that is present wherever life is present. It is not conscious in the way that we are conscious. Our consciousness is due to a very high development and of a special form of mind action. This more primary form of mind action, however, is discovered all through nature. It is discovered in the birds that fly for thousands of miles from the south to the north, or in the opposite direction, every year, and that go accurately back to their old nests or old habitats in the north or in the south. How? It cannot be by observation of landmarks because, frequently, the flight is for a considerable distance over water where there are no landmarks. The bee does the same thing for shorter distances, and we speak of the "bee-line." The same thing applies to the cat that returns even though it is taken in a blind-fold condition or in a bag for twenty miles or more. How? How does instinct arise, or the change of organism due to a change of environment or of needs for the preservation or the development, of that particular species? Wherever we look, we find mind active, but we find it acting in a more wonderful way in the building of these organisms, each one covering the whole route, from the primal

cell to its own elaborate organic development, holding true to type, and yet differentiated into an individual. How? All these are evidences, so plain that even the blind—I am speaking now of the materialistically blind—must see that mind is everywhere at work where life appears. Life is a breaking through of the spiritual into the material. It is the avenue through which the spirit manifests itself in the material, Now, this power that builds the organism can rebuild it, and that is what healing means. It is a mental process, and the mentality that governs this process is the same mentality that we have in consciousness, and the one responds to the other.

The science of psychotherapy consists, therefore, in giving faith to this mind of the organism by which it will take the suggestions of the conscious mind to get rid of the diseased condition.

Psychotherapy indicates the existence of an etheric body or some body that responds to thought. Many scientists in Europe such as Von Schrenck-Notzing, Richet, Geley and others have discovered a substance impressible by thought and out of which figures have been fashioned by thought force. Some such substance is required to account for the facts as known; first, as a nexus between mind and body; second, as a framework along the lines of which the cells can group to form the embryo; third, as a receptacle for the mind, the psyche; fourth, to explain mental healing; fifth, to account for

slight loss of weight at death, which has been verified by a number of experiments; sixth, to explain why nearly all religions on earth believe in some such body; seventh, to correspond with the idea of the ether of space that we found necessary in the formation of atoms, as an ether stream to carry the planets, as a transmitter of light, heat, electricity, radio waves, gravitation and energy generally; and to coincide with facts reported by various psychic observers who saw, or said they saw, the etheric body withdraw from the physical at death. By the way, my son, James C. Edgerton, who is well-known in aviation circles and who never had any previous psychic experiences, permits me to relate the following. It is in his own words:

This experience, which absolutely convinces me of a future personal life, was produced by an anaesthetic in preparation for an operation for appendicitis. There was no conscious background for the experience, as it was totally dissimilar from any with which I am familiar.

In the first place please let me say that I was in full possession of my faculties, as there was no fever or other mental deterrent present. As is usual I was strapped to the operating table and was given an anaesthetic through a face mask which completely obscured vision. I was fully conscious of inhaling three full breaths. On the second breath, however, an unusual train of circumstances started which can best be described by the statement that my physical senses seemed suddenly to shift to a body other than physical. With no mental lapse whatsoever, I was clearly conscious that I was half sitting up and that my eyes seemed to take on X-ray qualities, which reduced my physical body to a mere shadow with the ankle and knee joints slightly more prominent. I saw another body within this shell, glistening brilliantly, and as I watched this new body of which I seemed to be a part,

and which was more objective to me than my physical body had ever been I slid out of my fleshy envelope with rapidly increasing acceleration.

During this interval my other senses were also functioning, the sense of feeling being concerned with a soul shaking wrench which seemed to extend to every cell of the body. To my ears came a beautiful sine wave note corresponding to middle E on the piano, which increased from zero to a volume which seemed to fill the universe. Following this I heard a voice to which I seemed to respond as to any physical voice, which repeated these words: "You are now suffering all the pangs of violent death. You are in the hands of friends and everything will be all right."

I did not lose consciousness until I was entirely separate from the physical body, which I knew beyond any question I had left.

We can learn another lesson from material medicine. I refer to treatment by serums. In most cases the serum is developed in some inferior organism that is given the same disease it is sought to combat. What does that mean? This inferior organism, be it a cow, a guinea pig or a rabbit—arouses itself to throw off the encroachment of that disease and, in so doing, gives us for our blood-stream the value of that intelligent reaction of its organism and the secretion created thereby to combat the disease in question. The same thing is true of vaccines. Vaccination for smallpox, for example; what is that? It is the same thing in a different form; that is, we are given a mild case of smallpox, called varioloid, so that our own organism can combat this attack and, in so doing, fortify itself against a greater attack of the smallpox itself. The whole philosophy of Hahnemann's

treatment, known as homeopathy, is based on the same principle. What is that? The medicine given in very minute doses in this case is intended to create the symptoms of the disease that is to be treated. Hahnemann, himself, not only acknowledges this but adopts certain mottoes such as *similia similibus curantur* (like is cured by like); "the hair of the dog is good for the bite," etc. That method constitutes a large part of *materia medica*. There are certain specifics it does not cover, such as that for the treatment of fever, but any physician knows that this treatment is only intended to allay the symptoms and not to get rid of the cause. I talked to a gentleman who has been a physician all his life. At first, he was a physician of *materia medica*, but afterwards he saw the light and became a physician of mental medicines. He said that during his whole lifetime, which had been a long one, he had discovered one fact: "God heals." That is true whatever methods are used, whether they be material, so called, or mental. In other words, the same power that builds the organism repairs it, protects it, and perpetuates it through reproduction, also heals it.

Some physicians draw a distinction between functional and organic diseases, or lesions, claiming that mental methods may be effective in the first class of cases but not the second. The distinction is rather difficult to draw and most spiritual and mental healers treat for both kinds of disorders. In this connection, a post mortem

examination in Vienna of one thousand bodies showed lesions in the lungs of a large percentage, my memory is a majority. In most cases these healed without the knowledge of the patient or of anyone else. Now, such healing, according to the usual accepted theories of psychotherapy, is under the direction of the subconscious mind; and might in other similar instances respond to mental or suggestive treatment. Such healing involves only the customary metabolism which itself would seem to be connected with the unconscious mind of the organism.

That this is mental power is proved, not only by all the considerations we have had before us, but by many more. In the lowest form of life—in the infusoria—we find evidences of mentality. In the plant, we see reaction to environment. In the sunshine the leaves take on a different shape than in the rain. A tropical tree, taken gradually into a northern climate, adapts itself to the change of environment. It will not do this if the transition is too sudden because there is more of a change than that organism can overcome or adapt itself to, but in a sufficient time, some evergreen trees in the south will become deciduous and thus adapt themselves to the colder climate of the north. Similar processes are going on continuously in nature. All of this evidences either mind in the organism or mind in the cosmos that shapes, adapts, modifies and protects the organism. That same mind is available to man. Aye, it is doubly available

to man because man has a conscious appreciation of its powers and of the ways in which to induce its action. The reader is referred to the chapter on healing in *The Philosophy of Jesus* where the subject is discussed along similar lines.

It is sometimes objected that psychotherapy does not always work. Does *materia medica* or anything else always work? I am compelled in all candor to say that cases of real spiritual communion may be rare, that genuine instances of spiritual healing may be rare; and that instances of true soul memory may be rare; yet they are all the more precious for that reason. There are genuine coins among all the counterfeit. About the time of Jesus there were dozens of false Messiahs running up and down Judea. Yet that fact did not detract from His ministry, one important feature of which, by the way, was in healing the sick. That brings us to another thought.

Healing has a larger meaning. It involves a different attitude toward life. Not only can thought master all conditions, including the organism and its environment, if it is sufficiently informed, awakened and masterful, but thought can alter the whole aspect of life as to its values and as to its higher meanings. Physical health is not all; mental health is to be considered; financial health; health of social relations; health of outlook. So this philosophy has revolutionized life for many people. Hurtful criticism, for example, reacts on the critic. "Judge

not that ye be not judged." When we learn just what hurtful criticism may do, we see that indulgence in it is unscientific—just as unscientific as it would be to put our hands in the fire or to jump over a cliff. Mental and moral laws are as real on the higher level as physical laws on the lower. We have to discover that action and reaction are equal, not only in the material universe but in the moral universe. At the last, they become justice—Theosophists call it "Karma," which is only another statement of the same principle. What we give out, we receive. That is the law of compensation. When we learn this, really, so that it becomes a part of character and a part of habit, life is transformed. In that aspect, we no longer have enmities, for we know that an enmity is a disease of relationship just as much as pneumonia in our physical organism is a disease on its plane. Lack of means is a disease of circumstances. That, on its level is just as destructive and hurtful as mere illness in the body. So it goes throughout all life.

What we have to learn, therefore, is healing on the higher plane. We have to become, in a way, the builders of our own life. I am convinced that nothing can come into anyone's life that is not invited or permitted. We are king in our own realm and if we are on the job in a royal capacity, we do not permit insurrections or disorders or other hurtful conditions in the realm over which we rule. This is, in a way, figurative language based on analogy, yet it contains a deeper

truth perhaps than most of us have imagined and it can be worked out in a practical way.

This new philosophy of life is healing on every plane and gives us a new world. To realize the power of thought, we only have to reflect on certain things that have happened in our own lives. I refer especially to that interesting period when we fell in love. We can all recall how the whole world changed at a certain smile. We thought better of everybody, even folks that we had hated, or thought we hated. We suddenly discovered kindness and goodness in them we had not suspected. Yet nothing had happened except in us. We discover when we really get into this philosophy that nothing can happen except in us, and that if the right thing happens in us it begets right things in our environment.

In this adventure of ours, therefore, we are finding factors that can be immediately utilized in personal, everyday affairs. My own belief is that all factors, if we really master and understand them, can have helpful applications.

The result of this whole study, as it is working out, is to bring us into a spiritual consciousness here and now. We do not have to wait for some future heaven to know the spiritual universe and to know it as an active force in our lives on earth. If we could get a real insight into the values of the commonplace happenings of everyday, we should see these transformed into things of spiritual value, necessary in the work of building up the consciousness that we

are representatives of the universe, or sons of God. That is what life means; it is a progression from the unconscious to the conscious. That truth, also, has a bearing on our present subject, for this mastery is not a thing alone of suggestion; it is not a thing alone of a mechanical appeal to the subconscious. It is a conscious shaping of all the forces of life, inner and outer. This point is supremely important. Whatever may be the destiny of the individual, I am convinced that until this lesson is thoroughly learned, assimilated, and made a part of our personal characters, we must go on with our schooling. In other words, our adventure is an infinite one. It is not for one life; it is for an eternity.

The dialectic, to which I have been referring, is analogous to the dialectic that we meet every day that we live. We have problems or oppositions, chaotic conditions, or adverse circumstances, that we have to overcome, transcend, and convert into the gold of experience—life is like that. It is, in common, everyday, practical life, a surmounting of self. In the last analysis, the only thing we have to transcend is self. In this whole process we are transcending self; first, in gaining universal ideas in the transcending of the selfish individual consciousness; next, in surmounting the material, we surmount it through understanding, through seeing that it is only a symbol, a function, an object. Realizing this truth, we can know ourselves and know the universe, and can transcend these con-

ditions through knowledge. In the same way, we transcend our diseases; we transcend our complexes; we transcend our inadequacies; we transcend our defects. We gain mastery only through the method of mastery; that is, through mastering our own lives, our own ailments, our own social and financial conditions, and transcending our tendency to belittle our brother. In the highest sense our brother is our other self. He is that not only in a metaphysical and religious way, but in the social aspect. Until we learn this and gain all there is to gain through love, appreciation and service, we have not finished with our brother.

This all comes, in the last analysis, to what I have treated in another book under the title *The Philosophy of Jesus*. I discovered that Jesus was scientific, that His whole philosophy is an integral thing, and that we cannot know it until we see it as a whole. It includes non-resistance, love of enemies, healing of the body and healing of our neighbors, brotherhood, forgetfulness of self, innocence, a very receptive attitude to the spiritual universe. Jesus taught that the Kingdom of Heaven does not belong to some other state of being, but is here and now. The Kingdom of Heaven is within us, and when we know our inner life as the Kingdom of Heaven, it is outside of us, too, because the inner is manifested in the outer; not as a condition, but as a plane of consciousness. Jesus gave us a consciousness and a life, and this consciousness and life, when we once learn it, is regenerative on

every plane; on the moral plane, on the physical plane, on the spiritual plane. That is the philosophy that we are learning in psychotherapy; for, after all, this state of consciousness is not a matter of observation; and observation is the method of science. Science is descriptive. This is a matter that goes deeper; it goes into the very spirit of man and opens him to all of the life-giving energy of the universe including the renewing, regenerative power of God.

In conclusion: I had one little experience in my life that is not out of place here. Just before retiring one night, I uttered a prayer in my heart that I might be given a simple phrase, in a few words, that would describe this whole healing process. I awoke in the morning with these two words in mind, "Jehovah reponens." I did not know the meaning of *reponens* at that time. Two or three days later, however, I got to a place where a Latin dictionary was available, and I discovered *repono* means I renew, and that the phrase, therefore, could be translated, "God renewing." The more I thought of that the more it meant, for all life is a process of renewal. That is what distinguishes living matter from dead or inorganic matter. Every organism has the power of renewing itself and of reproducing itself. We talk about reincarnation! Why, we are reincarnated every day. What does reincarnation mean? Literally, it means entering a new body. That is what we are doing with every breath we draw, with every meal we eat, with every moment we live. Our

body is a different body from what it was an hour ago. I have likened the flesh to a stream of water. It keeps a certain form because the banks hold it in check, but the physical part of that stream is forever moving. The body maintains a certain form because the etheric body, or soul, holds it in that form; but the matter in it is forever changing. All the flesh changes in about a year, and even the bones change in a few years. So I liken this stream—the middle of it, where the current is swift—I liken that to the flesh that is changing all the time, and the shores, where the force is retarded, is like the bony structure that changes more gradually, yet it all changes, it all flows and it forever renews itself. This power of the universe—the creative intelligence—is forever renewing. It is part of the spiritual universe that breaks through into the material and fashions all organisms and heals all life.

We hear much of glandular treatment, through surgical and electrical agencies. Why confine such treatment to these crude and mechanical methods when the same result can be attained by thought?

The glands respond to mental impulses even before there is any physical need of their activity. For example, when we are told a piece of sad news, the tear ducts flow. Nothing has happened to us except an idea. A man may be in perfect health, but he receives a telegram from which he falls dead. Nothing has happened to him except a thought. We go out walking on a

pleasant morning in the woods and meet a bear. The adrenal glands immediately throw into the bloodstream a secretion that serves a double purpose. It gives the whole organism endurance and it tends to stop the bloodstream in case of wounds. We see a meal upon the table: Our mouths water and all of the digestive juices are accumulated in quantities to take care of that meal. In the case of the bear and in the case of the viands, nothing has happened to us except a thought. We can each picture in his own mind how other glands respond at a mere visual image, but it is not even necessary that the visual image be there. If we can imagine with enough realization, the same result will take place. Herbert Spencer, following Mansel, speaks of a vivid stream of images and a faint stream, the vivid stream responding to the objective reactions from the senses and the faint stream to our memories thereof or our reconstruction in imagination; but that the difference between the faint and the vivid is not caused by the mere presence or absence of the objective stimuli, is proved by the fact that if our awareness of the absence of these stimuli is somehow blotted out, as in a dream or hallucination or hypnosis, the faint stream becomes vivid at the mere actuation of thought; and this demonstrates something else—that it is not the existence of the objective stimuli that accounts for the vividness or the faintness of these impressions, but only our inhibitions. It is due to the fact that we know the faint stream to be unreal that

makes it faint. The moment we think it is real it becomes as vivid as the other. The same thing is true of the ductless glands. They respond to thought and respond to nothing else, but the degree of their response is due to the degree in which we believe that we need them. The same thing is true of healing. If you have faith, nothing is impossible to you, for this is a thought universe—organized by thought, vivified by thought, explained by thought and taken into reality of functioning by thought.

CHAPTER XII

THE NEW PSYCHOLOGY

PHILOSOPHY is the mother of the special sciences. In the pre-Socratic days they were merged. Thales thought that the unifying or primary substance in nature is water and others following him identified it with other substances such as air, fire, attraction and repulsion, and so forth.

The first of the special sciences to be organized in its own behalf, perhaps, was physics, and following this, biology or, as it was known in the earlier days, zoology, although biology has a wider meaning in that it includes the plant world as well as the animal. Then astronomy emerged from the common background and, later, chemistry. After that came the other physical sciences and, last of all, psychology and the social sciences. It is not surprising, therefore, that psychology is still in a more or less formative stage. We have many forms of psychology. We have behaviorism, of which Dr. John B. Watson is the foremost authority. We have introspectionism. We have what is known as the Gestalt psychology, of which Dr. Wolfgang Kohler is the spokesman. We have analytic psychology, with Freud and Jung as the outstanding figures. We have applied psychology, and I am not now referring to the popular form

that has been jocularly called peripatetic psychology, but to the application of the academic brand.

Behaviorism is modeled largely on physics, that is, it follows the method of observation. It depends on reflexes and reactions. It is not surprising, therefore, that it should take the form that a man is hungry because he eats, is tickled because he laughs, or is cold because he shivers. The layman would call that a cart-before-the-horse science, and yet I am not critical of it for the reason that it belongs to the objective method. Behaviorism fights shy of what it calls direct experience—the subjective; and, in the same way, introspectionism, while the two are opposed in some particulars, has something of the same attitude, in this way: Introspectionism seeks to get rid of meaning, or association, and to get the pure sense reaction. I can perhaps illustrate that in this way: If I see you approaching me, you look as large ten feet away as when you are within five feet, but, as a matter of fact, you are vastly larger at five feet than you are at ten, by actual physical measurement of the angles of vision. What happens is that I allow for the distance and see you as large at one point as at the other. That is not only true, but a round plate, if I look directly down on it, would, of course, look round, but if I look at it from an angle, it should be the shape of an oval, but if you hold an oval beside the round plate and ask me if they are the same shape I will answer “No; one is an oval and the other is a

circle," because I allow for the angle of vision. In the same way, everything I see I clothe on with meaning, due to my experience or my associations, and 'this meaning introspectionism seeks to segregate and get out of the picture.

John S. Haldane, in his book *The Sciences and Philosophy*, to which I have previously referred, insists that each science should be treated in its own field and on its own level. That is, biology cannot be treated from the level of physics and psychology cannot be treated from the level of biology or of physiology. The obvious criticism of behaviorism is that—and to some extent the same thing applies to introspectionism—it seeks to treat psychology from the level of physics; that is, it endeavors to find quantitative equivalents instead of qualitative, and therefore charts its results in curves; reactions are to be measured quantitatively. There have been fruitful results from that method. It was used by the scientists in the World War in charting the intelligence reactions of prospective soldiers. It is used almost universally in our universities and colleges and is being introduced into industry, into business and even into music. The Eastman School of Music at Rochester, N. Y., has a psychological department.

Gestalt psychology is newer. Its founder, Wolfgang Kohler is a Nobel prize-winner, a man of international reputation, the author of many books, and perhaps the outstanding figure since Wundt and Fechner among the psychologists of Germany. There is no exact translation of the

world "Gestalt" but as it is used perhaps "form" is the nearest to its meaning—form psychology. One of its features is to deal with organic wholes and to include as a factor the organizing power of thought in its reactions. It does not reject meaning or association as a part of the process of reaction. Dr. C. Judson Herrick of the University of Chicago recently read a paper before the National Academy of Science in which he stated that the latest experiments had borne out the claims of Gestalt psychology. Reflexes are not local but come from the whole personality.

Quite different from all of these is analytic psychology, better known as psycho-analysis. That observes, but in another way. It seeks to bring to light all of the hidden motives in the individual. Originally started by Freud and others as a therapeutic agent it has developed into a special science in and of itself. Most of the academic psychologists fight shy of psycho-analysis. It does not depend on the method of physics and of quantitative measurement; rather, it seeks to discover the whole history of the individual, conscious and subconscious, and through bringing his hidden complexes to light to cancel or dissipate them. Freud refers almost everything to sex suppression or sex perversion, and has been widely criticised in consequence. Perhaps he has been intentionally and unintentionally misunderstood. At any rate, his contribution has made a new departure for psychology as well as for man's outlook on life.

As to the differences between Freud and Jung, chief among these is that Jung does not stress sex, but also includes the ego, or ego-maximation, but lack of space forbids going into these matters in detail. I am not seeking to treat psychology except as it has a meaning for philosophy and, therefore, what I say will necessarily be general. Psycho-analysis is a part of the general movement that is giving to the world a whole new mental background and outlook. It is removing some of our old inhibitions, fears and phobias. It is bringing these things out of the shadows into the light of day and, like all noxious growths of the dark, they cannot stand the sunlight. They disappear as soon as subjected to the aneesthetic of publicity. When we turn over a stone, all sorts of bugs and noisome creatures underneath scurry for another cover. We find, in like manner, various social monstrosities growing in the darkness. The moment they are brought into the light they flee or are destroyed. According to the doctrine of correspondences what we find on one plane we find in some similar form of manifestation on other planes. I sometimes liken our sins and pet errors to these forms of life that grow in the darkness. Often, we are not conscious of them. They have not emerged into the light of our own awareness, much less into that of public observation, and the moment they are brought forth, the moment the stone is overturned and the sunlight introduced, they flee or are dissipated.

Dr. Phineas P. Quimby, who was perhaps the

founder of mental and spiritual healing in the modern age, stated that in some way that he could not wholly explain he entered sympathetically and telepathically into inner communion with his patient, became *en rapport*, to use a spiritualistic term, and through this means learned of the seat of the trouble. He further testified that the very moment he came to a knowledge of these hidden sources, the cure started. If we reflect, we are surprised to find that was the method used by Jesus Christ. He said repeatedly, "Thy sins are forgiven thee;" and what is that but a canceling or dissipation of some complex that the patient perhaps knew, but was careful that nobody else should know? Or the complex might have gone deeper—it might not have been known to the subject, but in his subconsciousness these words had power, and the work was done by the method of the substitution and suggestion.

As I stated, psycho-analysis was at first a therapeutic agent but now it is being used more and more in the way that academic psychology had been used before. Instead of charting a curve of reflexes and reactions, each individual is being examined as to his conscious and subconscious history, so that the springs of action may be discovered and, through this method, normality or, at least, the normal trend of that individual, may be discovered. We cannot talk of normality in a standard fashion because there is a norm for each individual. We do not react in the same way because we are not organized in

the same way, we do not have the same history and the same background, outlook, or motives. Physicians have discovered that they cannot treat known diseases in exactly the same fashion in each individual. "One man's food is another man's poison." There is a wider variation between human individuals than between the species in the lower orders of life. That is one reason there must be an archetype, or at least a pattern, for each organism. This is especially true on the human plane because we cannot classsify a Shakespeare with an Australian bushman or African Hottentot, although physically speaking, the bushman or Hottentot might be a better speciman of manhood than Shakespeare. Psychologically, however, there is a vast-er gulf between 'the two than between man and, let us say, the primates.

What is the meaning of all this in a philosophical sense, and that is the point in which we are especially interested. Before discussing that, perhaps we should glance at the difference between the scientific and the philosophical methods. The sciences necessarily observe objectively because they are interested in the way things perform. Likewise, there are empirical scientists and they are conservative in stating their conclusions. While they adopt hypotheses, they must not only have facts on which to base these but must find out if the hypotheses are fruitful in producing further facts. That is the final test. If they are workable, they are tentatively adopted, but they are always subject to rejection

at a moment's notice—the moment they cease to work.

It is obvious that with this method scientists may believe much more than they state. They have a body of public opinion among their confreres that is always a check on too exuberant or fanciful conclusions. A scientist who becomes what we call a "cloud chaser" is in danger of not being taken seriously by his co-workers. It is obvious, therefore, that we cannot depend on general conclusions from any special scientist because he does not speculate. That is a primary principle. Much of the confusion of modern thought is due to this very fact, that true scientists are negative about anything they cannot quantitatively measure, weigh, demonstrate and use. Philosophy, on the other hand, lives upon the very food of speculation. It must do so in the nature of things and in this youngest child of philosophy—psychology—the tendency has been, as is always the case, with one obtaining his majority, to declare his independence more than he means. He is like a new people in revolt who are much more bitter towards the mother country than toward any other, whatever the ties between them may have been.

Psychology has been hampered further in using the physical method of quantitative measurement, and in seeking to observe physiologically rather than from any deeper level or stratum of consciousness. The great trouble with physiological psychology and, to an extent, with behaviorism, is that it has taken the

“psyche” out of the word and has given us “psychology without a soul.” Take the simple matter of visual reflexes. I have already commented on the fact that the universe we see is due quite as much to our organization and our reaction as to the thing in itself. No one has ever discovered how it is that we see, and the more we analyze the organ of sight, the further we appear from our goal of understanding. The picture on the retina is reversed. It is upside down. How is it that this reversed picture is analyzed by nerves and carried back to some cortex in the brain and there reconstructed into the familiar world? For, please bear in mind that each one of these nerve fibres carries only a section of the picture, if it carries even that. Perhaps what it does carry is a section of the stimulus from the particular point in the retina that it contacts.

We can approach this subject through the analogy of television. How many of us, I wonder, are familiar with the method of sending pictures by radio, and I speak now of still-life pictures. That is quite commonly done now-a-days. Pictures have been radioed from Europe and from various parts of the world. The method is the analysis of that whole picture by a pencil of light projected through holes or lenses spirally arranged on a revolving disk. This pencil sweeps from left to right cutting the vertically moving picture into strips of varying light intensities. The light values are then transformed into electricity, just as is done in the case of sound trans-

formed into electrical values, which are transmitted by radio and transformed back again into light values and the picture reconstructed.

Applying this process to that of the human eye, it is obvious, with an end nerve touching each cell of the retinal wall, that in some similar fashion the stimuli from this picture are carried back through each one of these individual nerves to the principle brain cortex, where the whole thing is reassembled right side up and in its proper place. There are still more striking features of this process. One would say that we should see the picture subjectively or inside the brain cortex or at least as it appeared on the retina. We do nothing of the kind. We not only reconstruct it but we put it out where it belongs and see it in the objective world. That is what actually happens. So that if our introspectionist friends are seeking to remove all of the subjective elements from our sense reactions, they have quite a way farther to go. First, they would have to eliminate all color values because these, peculiarly, are due to the reactions—the subjective reactions of the organism—but they would not stop there. I suspect that they would have to eliminate the whole picture; it is an organic whole. The picture method belongs to our organism, our reactions.

Now, the Gestalt psychology seeks to behold things from the standpoint of the organic whole, and not only the organic whole of the subjective, but the organic whole of the thought process that organizes the objective and brings it into the

consciousness. When we come to reflect we discover that is the peculiar function of thought—it organizes.

Perhaps it may illustrate what I mean to refer to what I have called "the accidentalist theory," from another angle: A gas is chaotic. We talk of gas pressure. What does it mean? It means that the molecules of the element or the compound that makes up the gas are bombarding the sides of the container, and the more heat that is introduced into the gas, the more it vibrates and the more violent is the bombardment until, finally, these molecules—these infinitesimal molecules—beat the sides of that container with such force that even though made of triple iron or steel they are cast asunder.

Now, to ascribe any organizing ability to this chaos is beyond conception but that is, originally, what the physical universe is. It is incandescent and all the molecules, atoms and electrons are in violent commotion. There is some element that imposes order on this chaos and organizes it, and since the only thing we can discover in the universe that has this organizing ability is thought, we must conclude that thought is involved in this process and that somehow, somewhere, there is purpose, co-ordination and organic action behind it, constraining the chaos to bring it into system. We discover a similar process throughout nature. I play solitaire, and I discover that there is a cosmic process involved even here. Shuffling the cards reduces them as far as possible to a chaotic condition,

and the game is to bring them back into order. To the extent I accomplish this I win the game. Nature, again, is like herself, and we discover everywhere reminders and clues to this riddle and puzzle.

In this same way, thought organizes its perceptions, that is, it organizes the raw material; takes it up, sees what it is made of, compares it, classifies it, systematizes it, organizes it into a meaning—that is the thought process. The Gestalt psychology not only considers organic wholes but considers the organic thought process by which we comprehend them. That which distinguishes an entity, a whole thing, from the mere sum or addition of its parts is the co-ordinating factor, that intangible something that makes it an entity, and this factor is necessarily spiritual.

I have already remarked that psychology is a young science. It has to go through the same stages already passed by other sciences. Physics is relatively an old science. When psychology has attained an equal age I hope, and even predict, that it will make as great advancement in its own field as physics has made in its field. Physics, as already remarked, has led us to the very doors of the spiritual universe. Psychology should be peculiarly adapted to an equal or a greater progress in the same direction because it is in a more peculiarly mental field. It will reach that goal when it ceases to imitate physics and emerges on its own level by using qualitative as well as quantitative methods. There is hope,

because analytic psychology is doing just that. It is making its approach from a new direction, not from the angle of the material and the level of quantitative measurement but, rather, on the peculiar level of mind. We cannot consider mind without meaning; without association; and without the spiritual.

We are clearing the ground for our final synthesis. The meaning that I gain from the New Psychology is that it has still further verified this tremendous fact that we have been touching all through this series of studies, the presence of an Intelligence through and under all the universe. Philosophers and poets have written and sung of that intelligence throughout the ages. Wordsworth described it as "a something deeply interfused." We are beginning to observe it actually in scientific and verifiable ways. We discovered it, first, in our consideration of mysticism, then in our Philosophy of the Unconscious, and again in Evolution. We found it in Psychic Phenomena. We saw it as perhaps the chief factor in Psychotherapy, and here it emerges again. This may be the key that will unlock the door. I recently talked with a gentleman who had been a hypnotist and who not only approved the facts mentioned in this book, but gave certain corroborative instances: He said that he often passed a needle back and forth through the skin or flesh of a subject, with no pain, bleeding or subsequent soreness, indicating that the wound was immediately healed. Again he placed weights on the rigid body of a subject

lying with head on one chair and feet on another. He had at least three men on the body of one subject with no ill effects.

There was a difficulty, if a grossly wrong action were suggested, however, such as murder. Then deceit had to be used such as suggesting that the proposed victim was some sort of an animal that it was right to kill. If the operator insisted too strongly on an immoral act the subject would often awaken, thus indicating that the subconscious is not wholly unconscious. We find that this subconscious is mind, not depending, so far as we can discover, on the organism—mind that emerges everywhere that life emerges, and that has power through the puniest instruments to overcome every obstacle.

I mentioned above how the bombardment of infinitesimal electrons, atoms and molecules in gases breaks open the strongest boiler, but there remains a greater marvel. The roots of a plant lift the largest stone and find their way, or force it, against all obstacles. Where do they gain this power? If we examine the fibrous roots of a plant we discover that they are made up of unstable colloids and organic substances that scarcely hold together at all. These substances are forever moving and vibrating, with cells constantly passing out and new cells passing in, yet the power that organized this root can so unite and use these unstable elements as to lift or break the rock.

What is this power but mind? Life is intelligent. It not only has the power to organize,

but to surmount all obstacles. Can we wonder, then, at evolution; can we wonder that life, although seemingly thwarted and beaten back—defeated by the glacial age; defeated by the violence of the elements; defeated by the chaos in the early world; by the constant earthquakes, eruptions, fire and poisonous gases of the primeval ages—yet pursues its way, not only surviving but progressing, emerging on new levels until at last it crowns itself with rational consciousness. Life appears in the most impossible places, under the most untoward conditions. There is no nook or cranny it does not invade. It organizes and adapts itself to all environments.

We find this organizing feature again in psychology, in the extra-conscious mind, and even if the classic psychologists are unfriendly, it has so woven itself into the whole texture of this science that never again can it be ignored. It may happen in this age, as it has happened so often before that those scientists who restrict themselves too closely to familiar concepts will be discredited, just as reactionaries in every age have been left behind and have passed into oblivion. It is not a mark of superiority to reject the new simply because it is new. If we examine the history of science we discover that it is only those venturesome minds who are ready to seize the new as a vantage point for further discovery that have made science what it is. There were so-called classic scientists in Galileo's day, and they laughed him to scorn; they refused to look through his telescope. That impresses us

now as amusing, but, if we stop to reflect, men in our own day are doing the same thing—and very advanced men, presumably, at that—some of the greatest scientists in the world. I have met them—men who will not consider psychoanalysis because, *per se*, it is novel and does not follow beaten paths.

The very essence of reactionism is fealty to familiar concepts and that is true whether it is applied to religious, scientific or political concepts. Precisely as no advancement has ever been made without an invasion of the invisible, so no advancement has been made without embracing novelty.

In conclusion: Psychology points beyond itself. I have already mentioned the method of the sense of vision. I have tried to show how radio-vision is reached through the analysis or cutting up of the picture and the transmission of it line by line. Perhaps in the same way, the light values, or stimuli, are analyzed and reconstructed by the optic nerves in the brain, but what or who is then the observer? It cannot be a mere brain cortex because the brain cortex itself is an object and an instrument. That is all we can say for it. An object and an instrument cannot have consciousness. A machine exists for a function that is beyond the machine, and this cortex is only a machine. The function is beyond it. It is a method of carrying the material to something that reconstructs it into a picture. What is that something? We cannot answer the question

without approaching the other plane of the universe, and right here is where we get our meaning for philosophy. We may call this inner observer the subjective, the ego, or what we will. All of these are names that are not even descriptive, much less explanatory. We cannot get a real, comprehensive designation of the ego until we consider it as a monad, a microcosm of the universe having, in itself, the quality and intelligence of the universe of which it is representative and to which it corresponds. In latency and potentiality it is that universe, to the extent that it knows its own nature and reality. In Hindoo terminology it is "That"—that which is, that which knows.

How could an acorn, gathering the water and the fruitful elements out of the soil, build itself into an oak tree from its latency or potentiality unless the oak tree were there, even though invisible, to come into manifestation, and how can we know the universe in ourselves unless the universe in latency and potentiality awakens therein the magic touch to bring it into manifestation? I do not mean objectively, but I do mean in idea which is the essential being of the universe. Herein lies its meaning for philosophy.

Returning to the comparison between natural vision and television, it should be remembered that in natural vision there is one nerve end for each cell of the retina, and that each nerve or filament carries its part, not of the picture, but of the reflex or of the value—of the neural value, we might say in this case—of that parti-

cular infinitesimal portion of the picture that is reflected by the cell from which it leads. Now, we may call that a nodule and liken it to the radio method of carrying still-life pictures, cutting them up, each value being transferred, in the electrical frequency and then reconverted into light value, which is another frequency, and showing forth as a picture. All this happens so rapidly that the picture comes almost as fast as the sound message.

In the analogous case of vision, the retinal image is split up with an almost inconceivable rapidity, so that, ordinarily, we say, there is no time involved. That is not exactly true, however, as we discover by another modern invention, the moving picture, because the moving picture depends on the time consumed in analyzing the impression we get through the eyes and building it into the picture. That takes about one-sixteenth of a second. So that if the cinematographer can produce still-life pictures at the rate of 16 per second, they appear to be moving. There is a time factor, therefore, but on an utterly different frame of reference from ours.

To understand these processes, whether they be connected with vision or anything else with which psychology is concerned, we must go deeper than physiological reflexes, or observation of external behavior. We must go to that something—that margin that is over and beyond sense impression or intellect or any of the known modes of mind action—that margin that we cannot, either quantitatively or qualitatively, meas-

ure, and yet that is always present and belongs, I am convinced, to a level and an order of life that science has never yet considered and of which even philosophy has only touched the hem of its garment. We find this everywhere present; in all of the lower orders of life; we find it in history.

This brings us to imagination, or, more properly, to the imaging faculty. This is involved in perception, for it is a necessary part of building the picture. Again it is concerned in building the concept, in generalizing and classifying the individual percepts. Again it is an essential part of memory; and, more important still, it is of the very essence of the creative process, or what we call imagination proper. Coue says that we heal through imagination. Perhaps it would be more correct to say that we heal through imagination, intuition and faith. Imagination is at the root of genius. It is the faculty that distinguishes the exceptional mind from the mediocre. It is that which enables men to construct the perfect in art.

One of the greatest emperors of India ascribed his own pre-eminence to the fact that he saw things not as they are but as they ought to be. Jesus had the same faculty. He looked beyond the appearance to the reality. He saw things as they exist in the mind of God, in the Absolute Idea. This very perception banished all unreality, all defect and disease. This power of visioning the ideal belongs in some degree to all of us.

Men know more than they suspect. They have

not been left without some reminder of what they are and what they ought to be; and what they ought to be is a prophecy of what they will be, given time, understanding and character, so that through merit and as a part of their own internal worth and their own divinity, men can become that which they ought to be. Their very recognition of obligation indicates that God wants them to become these better men they vision and through His grace they can and will at last succeed. They are not left without some prescience, premonition or sacred reminder of this. We find, therefore, in all ages religions arising and, however diverse the circumstances under which these religions emerge, they are much alike; if we get beneath the creeds and the forms, we find a surprising number of factors that are common to them all, and these must arise from that deeper consciousness, that margin beyond all of these measurable or observable things, of the spirit in man.

CHAPTER XIII

THE PHILOSOPHY OF VALUES

THE world as man experiences it is a complex of phenomena, of interpretations and of human estimates and values. The physical universe is a mere abstraction from this world of experience. That applies also to the biological world. It is only a section of the world man knows. Values and interest are purely on the human plane. There are many of these values. There is a pragmatic value; that is the value of use. On this basis William James wrote a philosophy the keynote of which is that a thing or an idea is judged by the way it works. Mr. James said that he believed in God and immortality because both ideas work well; they make better men and women; they give a dynamic to the soul; they hold out hope, and offer meaning. We can judge of our values somewhat on this basis. What effect do they have on character? Do they advance civilization? Do they help human beings to go forward? Do they offer incentives? Do they give inspiration?

We have another philosopher in America who collaborated with Mr. James before his death, John Dewey who has written a book recently on *The Quest for Certainty*, in which he takes a step in advance even of pragmatism. The old

philosophy, in his opinion, was based on static ideals—the same yesterday, to-day and forever. Mr. Dewey regards the course of human progress as rather a venture in which we are discovering new things, and we are doing this by means of experiment, of observation, of laboratory tests, of special equipment, such as the test tube, the microscope, the telescope, the X-ray. Through these means man corrects his sense-reactions. There has been a question of the phenomenal universe, which is the reason the Hindoos refer to it as mirage or illusion because it is a complex of stimuli from the outer world and man's reaction thereto. In other words, the phenomenal universe is created by us quite as much as it is received by us, and that gives the impression of duality. Through the means of instrumentalism, however, we correct whatever defects there may be in our senses and approach nearer to reality. By empirical methods we see how things behave under various conditions and seen from different angles, and thus gain a clue as to the validity of our observations.

I am not unfamiliar with the dogma of at least a certain school of philosophers to the effect that empirical science has no proper place in philosophy. It may be due to this very dogma that philosophy has practically stood still for a century while all the special sciences have so signally advanced. Be that as it may, the objection to the empirical element in philosophy has not the pith in it that it had of yore. Not to speak too disrespectfully of logic-chopping,

cobweb-spinning, hair-splitting and other familiar metaphysical and epistemological disciplines of an earlier day, it is yet a fact, welcome to some of us at least, that philosophy, if not made exactly popular, has been humanized and brought into the field of actualities.

There are language values. Man forms concepts and labels these concepts by words. Thus he builds a system of communication, and expression. This may not perfectly coincide with the reality of things, yet it is the only way man, through the language method, can progress. He gets concepts and relates them to words. It has been said that we think in language. In other words, without these labels, these designations, we have nothing for the mind to take hold of. We think, not this time by the picture method but by the label method—think the signs that stand for the concepts. Yet out of this grows various values—literature, poetry, oratory, the spoken and the written word. These have cultural advantages, and differentiate man from all the lower orders of life.

Again, we have esthetic values—in art, in music, in the drama. We build up a world that is acknowledged to be fictional, and yet it may be real in the idealistic sense. It belongs to the intelligible universe. Dickens' characters are quite as real to us as folks we have met. I can see *Nickelby* in my mind's eye, or *Sairy Gamp*, or *David Copperfield*, and all of these characters might represent truth more nearly than *Tom Jones*, *John Smith* or other people that we con-

tact in the flesh. In other words, they are typical of human qualities, and the author does not see them alone from the outside as we see most of our fellows in ordinary circumstances, but through constructing his characters he gets an internal view and reveals this to his reader.

Then, we have ethical values—the moral universe. We can only measure the meaning of these in the building of character, in testing the fibre of the individual, in giving him a contact with the moral ideals of God. Immanuel Kant, as I have mentioned before, could not discover God by intellectual methods, but he did discover Him by the practical approach of ethics and morals, because there he found an entity acting and, whereas reason discovered only the phenomenal universe, this Moral Being, in his relations to his brother and to his Maker, touched noumena.

Again, we have economic values—in business and industry. Indeed, we use the word value as a measure of price. That is not the sense, however, in which we mean it in this discussion because it involves a commercial element which appeals to the lower self, and these values we are discussing transcend the self and are in the ideal world, in the intelligible universe.

We have political values—security, democracy, Government. Without the State man would be subjected to every sort of hazard from those who do not have his ethical and moral viewpoint. He could not function at his best. We might say that in entering political relations we have to

surrender some of our natural rights. We have to obey the laws. We have to subordinate the individual to the public good. Looked at from that viewpoint, it would seem that we are placed in bondage by the State but, through this bondage we purchase freedom from the selfish and lawless members of society. We are enabled through law to gain a larger liberty.

Then, again, there are play values. It is not an accident that we refer to sports as recreations. The meaning of the word "recreation" is that we renew ourselves, and we do this by escaping from routine and refreshing the mind, or reviving interest. That is one phase of sport, and another is that we play the game of life, and this whole adventure that we are taking in the infinite is a form of playing the game. There is one feature of sport to which I call special attention—that of fair play. It gives us a clue to what our conduct should be in other affairs of life. The sportsman who seeks to win by retarding or injuring his opponent is ruled out of the game. If that were true in business we should have a distinctly better world, and yet we recognize the principle in business. I used to be a buyer, and if a salesman came to me with an attempt to injure his competitor, I was placed on guard at once. He was invoking a wrong principle. He was invoking a method that, if used in sport, would eliminate him from the competition. The rule is the right one that we should do everything we can to excel, but that we should place no bar in the way of our com-

petitor. Indeed, the more efficient our opponent is, the more it is a challenge to us to do our best. That is the object of playing the game on any plane. Our competitor, therefore, is our helper. If he does his best he brings out all of our resources and our ability to excel him.

We have social values, of which the most conspicuous is represented by the family. We cannot measure what family life has done for civilization. It has been called the cornerstone. It is a breeding-ground of ideals, of moral values, of love, trust, companionship, and all of the most precious things that develop in our human world. There is nothing finer in civilization than the Christian home. The destruction or the impairment of it would be a loss to civilization that we cannot measure. Especially, would it be a loss to the child. The child builds his whole world of ideals around the home, around the estimate he puts upon his parents, around the affection that he gives to other members of the family.

Then, again, there are religious values. We have all read of economic determinism. We are told that men are actuated by economic motives and this, to some extent, is true, but there is a higher determinism. I call it spiritual determinism. Let me illustrate what I mean: Our country was made what it is by spiritual ideals. I defy you to find in history any groups that in their accomplishments and their motives excel the groups we discover in the history of the Christian church, those who builded the struc-

ture of Christianity with the cement of their own blood, the martyrs; those who for conscience's sake and for their ideals, were fed to wild beasts, burned—living torches, their bodies soaked in oil—were not actuated by any commercial or material motive. In our own country, we have as our most precious heritages the results of a similar spirit and consecration. We in this day make light of the Puritans, and yet, without the Puritan revolution in England, and without the idealistic substratum that was furnished to our civilization through the Pilgrim Fathers, this republic would have been impossible. You say these men were ruled by economic determinism? They came into the wilderness where they lost all economic advantages possessed in their own countries. A large portion of the Pilgrims who settled at Plymouth Rock died in the first winter. They came into a wilderness that they had to clear before they could cultivate; settled in the midst of a rocky and inhospitable environment where they were subjected not only to crop failures and famine and all manner of misfortunes including sickness and death, but were exposed to savage foes that massacred them, burnt their houses and held them under a continual reign of terror. Do you say that economic motives actuated these people? You have not read their history if you imagine that they were even influenced by such things. It was a case, purely, of spiritual and idealistic determinism.

This brings us to perhaps the highest value

that has been known in human civilization. I do not exalt Jesus Christ and His philosophy because he happens to be the founder of the religion of this country and of our special groups. I exalt Him because He has been the greatest force for progress, for spirituality, for humanizing mankind, for teaching gentleness and kindness, just dealing, love of our neighbors and even of our enemies, that this world has ever known. There is a regenerative power in the very consciousness that He has given to the whole world, not only to His own followers but to all men; He founded democracy, as we know it. He gave freedom to the human spirit.

There is another phase of the subject to which I wish to devote the remaining portion of this chapter: That is what we call the value of the practical. This goes a step beyond pragmatism or the practical philosophy which has always been interpreted as moral philosophy. What I mean by the practical is that everything in the world, including man, seems to be governed by practical purposes. We have already discussed the protective devices that appear in all the orders of life, such as a protective armor, a peculiar coloration, or fleetness of foot, or teeth and claws, to repel attack. In every one of these defensive mechanisms, we discover practical purpose. We can even go beyond that into the inorganic world. How many of us have reflected on the narrow range of temperature, for example, in which life can thrive? There is a range of possible temperature running into the

thousands of degrees. The zero of space is something near four hundred degrees below 0, F. The temperature of the sun is supposed to run to fifty million or more. There is a range of more than fifty million degrees. Man and other forms of life can only exist within a narrow range running from, say, about one hundred thirty degrees F. to sixty degrees below zero, which would cover not more than two hundred degrees out of a possible fifty million, four hundred. Yet life has gone on upon this planet for countless ages in which the temperature has not varied sufficiently to make it impossible. This was true, even in the ice age.

I call attention to another striking factor in the inorganic world. Almost every element or compound known in nature contracts when it solidifies, with the one exception of water—that expands. Were it not for this fact, life as we know it would be impossible. Ice, if contracted, would sink to the bottom for its specific gravity would be such that it would displace an equal volume of water. That means that the streams in the north or in the temperate and frigid zones of either hemispheres would freeze solid, and while the sun might thaw them to some extent in summer, they would be like the glaciers—they would not be wholly melted. Not only so, but many of the common uses of water would become impossible. We find that the arrangement is a practical one.

We can discover the same thing in the organic world. Take, for example, the love of a parent

for a child, which is not peculiar to the human family. It exists among all mammals. It exists, indeed, wherever it is necessary that it should exist, but, where it would make little or no difference to the preservation of the young, it is not present in the same degree, and in the lower orders of life, among the mammals, it is only present so long as the young need the protection of the mother. When a cat weans her kittens, she will have nothing more to do with them. This same feature is found among almost all animals. Again it is a practical arrangement for the preservation of the species. While the young are immature and defenseless, they have the mother love. When that no longer is necessary—I am speaking now of the lower orders of life—it disappears. In man, love possesses other values and there are other practical reasons why this affection should continue, for it is the foundation of the family life and, in a sense, of the whole social fabric. Therefore, it does continue.

Again, we find that there are practical reasons, even in psychic phenomena, in death itself, and in loss of memory in successive lives. Let me point that out in detail. There is a practical reason for death. It is in the interests of progress. If an entity remained always in the same organism, it would become fixed in that organism, or in the thought content, or both, and thus would stand still.

I used to be greatly disturbed because I could not know for sure as to life after death. And

—to do myself justice—it was not wholly a selfish reason. I think it is so with any human being. All of us have loved ones that have passed through the valley of the shadow. We want to know about them. We long for a comforting word from the cold lips; for a reassurance of the identity of those who have been more precious, in many instances, than our own life itself. I wondered why I could not know for sure about these things. Then, I reflected, if it be true that man has lived before and shall live again, why is it we cannot remember? And I wondered, still again: If there is in us a subconscious mind that controls the organism, that presides over the organs of the body, that heals us—why could I not know this in my conscious mind? The answer to all these questions came to me in my heart: It would not be practical. If we knew of everything that the subconscious mind is doing in the body, with all the cells and organs, a boiler factory would be a Sunday School compared to the resultant confusion and chaos. Our minds would be incapable of attending to anything else. So all of this is retired into the subconscious for a purpose. It leaves our conscious minds free to attend to other duties.

Again, if we could continually communicate with the other world, and we found it more desirable than this, or imagined it to be so, and if our loved ones were there, we might become discontented with staying here. Therefore, we would lose all of the value of life in the way of training, education, character-building and,

even if we did not desert, we might be so distracted as to lose our efficiency. There is nothing that is such an incentive to man as interest, and we might lose interest in life. The same thing would presumably be true if we remembered past lives. There are any number of things that might discontent us. If, in the last life, or in some previous life, we had been more fortunately situated than we are now, that would tend to discontent us and if, in a previous life, we had been less fortunate than we are now; for example, if we had been in jail because we deserved to be there, that too would depress and shame us. Therefore, it would not be practical. In fact, when we come to examine the matter we do not need all the lumber of a detailed memory because we have digested that experience—that past experience, assimilated it, incorporated it into our very soul texture, in character, and we have thrown aside the mere detail of the experiences as useless excess baggage. To change the figure, we have sucked that orange dry; we do not need the rind. In ceasing to remember details, we have not lost anything except the mere identification with events which, for the most part, would now have no meaning and no interest, or slight meaning and interest, their purpose having been served.

We find the practical ruling in almost every plane of life. That gives a new and a valid argument for design, for practical purpose is only design in another form. We cannot turn anywhere in Nautre that we do not find design.

What does design mean? Order, plan, purpose. Sometimes these purposes and the operations to realize them are so marvelous that we cannot account for them in any other way than that some intelligent agent supervises them with final ends in view. I have already mentioned the wasp that paralyzes the caterpillar by stinging it in certain nerve centers so that the young wasp may be hatched in the caterpillar's body and feed on the living tissue; also the moth whose back looks like the eye of an owl and whose enemies happen to be afraid of owls. There are also the adaptations of the eye to light and of sex in two different organisms. Purpose meets us on every level of life. It is so plain that only the blind—and there are “none so blind as those who will not see”—can fail to discover it. In our own organisms we find these purposes evidenced in striking ways. For example, in the foot the tendons that govern the toes pass through the curve of the ankle. What keeps them from straightening out in the way a string does when pulled by two ends? These tendons are only finely organized strings, one end of which is anchored in the muscles of the leg, the other end in the toes and bent almost at right angles at the ankle joint. What holds them at right angles? Exactly the same sort of a device that you or I would adopt under like conditions. If we wished to keep a string or bundle of strings from straightening out we would tie another string about it or them. That is precisely what has been done in this case; and this string

that is tied about the tendons in the foot is not in any way a part of the tendons themselves.

Maeterlinck has a very wonderful chapter on the ways that bees form a honeycomb. Some of the different materials necessary to the manufacture are exuded from their bodies. The necessary tools for its manipulation are also in their bodies. The mathematical form of the cells is so marvelous that mathematicians have wondered at it. One mathematician worked out the form in which the greatest economy of space could be attained and found it corresponded almost exactly to these cells made by bees. It is not a matter of mechanical instinct alone, however, for only certain kinds of honey bees make cells in this way. Other bees do not make them so accurately. Moreover, if the form of the hive is changed, the design is changed to match. The comb is adapted to hollow trees or to tree branches in the open air. Cases have been known where the cells were placed upside down when the form of the receptacle required it. All this varied conduct requires intelligence. The bees apparently have engineers that superintend the operation, just as they have specialized workers, each performing its own allotted part of the task.

Yet the bees do not appear to be conscious and to work out all these purposes for themselves. The only explanation left would appear to be design. This has a meaning for our study. We can no longer leave the practical out of our equation in searching for truth; it is a factor in

our philosophy. Hegel's motto—"The rational is the real," I amend to read: The practical is the real.

There is another value and that is in truth itself. Herbert Spencer once said, in effect, that if man could adjust himself perfectly to his environment, he could know all things and live forever. Truth is an adjustment to environment. We have to know before we can adjust. We have to be in right relations through knowledge. We have to be in right attitudes. I sometimes think that people are not purposely malicious or wicked or selfish; that when we find selfishness, it is because the individual needs something and, therefore, he is reaching out to grasp after a satisfaction of that need. I have seen really educated and wise people who made no effort to seem educated or wise. They did not need to do so. Having the reality, they did not need the appearance. I have seen others who were less wise and less educated who appeared or tried to appear more so, because they had a need. In a way, it was a defense mechanism to shield them from displaying their lack of knowledge to the world. In the same way, men who have great wealth, do not need to appear to have it; for the most part they seek to conceal it. They can wear old clothes; they can even disregard the conventions; they can disport themselves pretty much as they please, because having the reality and being secure, they do not need to seem. On the other hand, those who have less, frequently appear to

have more because they have the need of it and they do not want to advertise that lack. We find this throughout life. In the same way, it is altogether possible that those who are forever grasping, do so because of soul poverty, or character poverty, of poverty as human entities—they are seeking to supply their own inner need.

Now, returning to the value of truth: In every science, in every art, in every philosophy, and in every religion, we find folks who do the work for the work's sake. They do not look for rewards; they do not even look for results, but, like the sportsman who plays the game, they serve only because of interest and the ideal of seeking truth for its own sake. That is somewhat the sort of an adventure on which we are embarked. There are no goals in sight, no rewards, no plaudits, but there is a satisfaction that is perhaps deeper than any achieved by these external and ephemeral things, a satisfaction in knowing for the sake of knowing, for the sake of the value we gain from a right judgment and a right assessment of life and of what it has to offer. Therefore, in this, our adventure, I am happy from my own viewpoint that I am free. I do not have to conform to any sect or to any restraint. I can seek truth for its own sake and have no inhibition or prohibition except such as my own sense of the fitness of things and of what is right imposes on me. Therefore, I propose as a motto of our study an old legal formula. We cannot live up to it exactly perhaps—man

never does live wholly up to his ideals; but we can put it before us as a shibboleth and standard, and it is this: "The truth, the whole truth, and nothing but the truth."

CHAPTER XIV

A NEW SYNTHESIS

AND now we approach the end of our adventure in truth and are ready for our conclusion. What do all these scientific discoveries mean? Can we relate and bring them together into unity? Do they dovetail into each other to form a system, and if so what is its interpretation? Do all our clues lead to a discovery? Can we gather up our materials into a coherent and intelligible whole? What is our new synthesis?

Perhaps, before we seek to arrive at any universal conclusion it will be well to examine further, and to arrange, just what we have found.

First, we have discovered that the basis of what the world called Materialism has crumbled. Matter is not what it seems. It is only organized energy. Our previous concept of it was due to an appearance and an abstraction, neither of which was real in any ultimate sense.

This is most important. The World War was due at least in part to the materialism of the Nineteenth Century. This materialism was undermining religious faith, undermining moral values, undermining idealism. It paralyzed spirituality, denied freedom and spontaneity, made man a slave of a blind and insensate necessity, tended to bring everything to its own low

physical level, and reduced thought to the static, the partial and the three-dimensional, to straight-line logic, to the block universe. It recognized only one kind of mind action, the intellectual, stressed the inductive as against the deductive reason, and looked from outside at parts rather than from within at wholes. In a word it beheld the symbol instead of the thing symbolized, the letter instead of the spirit.

Second, we have looked behind and beyond that twin appearance, Mechanism. The machine has its place, but only as the tool of mind which is its creator and operator. This is true whether we speak of a wheelbarrow, or a solar system; of an atom or of a universe of laws. The organism is a machine, as is habit, instinct and the automatic. To recognize this truth is important in order that we may have the right mental perspective and shall not regard the machine as something in and for itself.

The effects of mechanism and of a mechanistic view of life are widely ramifying. They touch not only philosophy and almost all the special sciences but art, literature, politics, education, industry and even religion. Formalism and ritualism are like prayer wheels, a sort of mechanism. It is not a mere figure of speech to refer to a political or a governmental machine, or to a mechanical performance in music, poetry, oratory, the drama, or the graphic arts. Mechanism kills art as the letter may obscure the spirit. Of its effects in the practical fields of sociology and industry I will speak later. Of the

deadening effects of a too mechanistic view in philosophy and science I have already treated. The machine has its place but as subordinate. It is only a tool and this is true whether it is human or natural. It is an extension or a convenience of mind. It is like a symbol, it stands for something else. Man who beholds things from the outside is prone to mistake the form for the substance. He must look beyond the sign for the thing signified and beyond the tool for its purpose and use. Else he may get a mechanical view and that is as deadly in philosophy as it is in art. In both the fault lies in superficiality—there is not enough depth, not enough soul, either in the art or the philosophy.

Standardization and uniformity are a form of mechanism and too much of either kills spontaneity. There is nothing quite so hideous as a row of houses exactly alike, except geometrical figures in gardening. There is something in the free spirit of man that revolts against that sort of invasion by the machine into fields where it does not belong. If carried too far, it becomes ludicrous, and excites laughter, which is a sort of escape valve from our reactions to the absurd or incongruous that otherwise would be too painful to bear. Bergson says that one of the chief sources of humor lies in making man into a manikin, or the introduction of too much of the mechanistic into human behavior. The error in the machine philosophy betrays itself from various angles and points of view.

Kindred to materialism and mechanism is ac-

cidentalism or the doctrine of chance. I have already shown how this has been responsible for serious errors in physics, astronomy and biology. The random element has its place but not as the organizer of a universe. When we build a house we do not leave it to chance to bring together the materials and put them into place. Chaos does not become cosmos without constraint and direction. Construction and co-ordination are mental activities.

It is probable that this random or indeterminate element is a factor in the process of differentiation. Apparently it runs all through nature, as pointed out by Leibnitz and more recently by Eddington. Leibnitz said that there are no two things exactly similar in the universe, else they would be identical. For example, no two leaves on a tree are alike. This statement caused the ladies of the court, where Leibnitz was stationed in some capacity, to compare the leaves in the court gardens in an effort to prove the philosopher wrong. We now know that no two finger-prints are alike and no two snow-flakes. Eddington supposes that this variation extends to cells, molecules and even atoms. They not only differ in form but do not even behave exactly alike. We see great masses of them, however, and on the average these masses act according to a norm and it is thus that we can predicate laws. This point may have a bearing on free will as we shall see later. We should bear in mind, however, that while the random factor may enter into differentiation, there is

no possible chance that it could produce order. Thus the doctrine of the fortuitous goes into the limbo of abandoned theories along with spontaneous generation, empty space, materialism, mechanism, et al.

Having cleared the ground of these negative factors, we are in better position to consider some of the affirmative results of our inquiry. First among these is the presence of the extra-conscious mind in living organisms and presumably throughout nature. This we have found is a factor in psychic phenomena, in mental healing, in instinct, in forming the embryo and in giving direction to the evolutionary processes. It is probably incorrect to suppose this mind wholly unconscious, but whatever consciousness may accompany it is infinitesimal and does not often arise above the threshold of ordinary consciousness. We find its submergence and emergence to be governed by practical considerations like most other things in nature. The extra-conscious is not essentially different from conscious mind, for one may pass into the other, or be influenced by the other. The extra-conscious mind does not depend on brain activity, however, for it may be greatest when brain action is least.

If man is an image of the cosmos and the extra-conscious mind is, therefore, present in nature, as facts seem to indicate, this would solve many problems, including that of Pantheism. The extra-conscious mind in the phenomenal universe is only one phase of the Divine Mind,

corresponding to what the theologians designate as God Immanent, while the conscious phase represents God-Transcendent.

The second great principle we have discovered, or rather re-discovered, is polarity. It is found in atom building, in electricity and magnetism, in the pairs of opposites throughout nature, in sex, and in the dialectic of thought. Therefore it must be universal and in its highest form would naturally appear as the two poles of spirit and matter. The fundamental basis of polarity is that the two poles complement or balance each other and that what we can say of one we cannot say of the other. Of the pole of matter we posit privation, or diminution through use, but in spirit everything remains constant, however much used or shared; and this applies not only to such ideal goods as truth, wisdom, love, joy, etc., but to life and even to energy, if the conservation theory is true. Indeed, the things of the ideal or intelligible universe actually increase through use, which suggests a solution of the old problem of addition or novelty. We add constantly to our thought and wisdom. On this plane all things are ever new.*

Again we posit of matter inertia, while spirit is eternally active. It is mind that initiates. Herein lies another disproof of materialism and mechanism since there is nothing in this inert thing called matter that could move or build

* Bertrand Russell, the philosopher and mathematician, implies that this same principle applies to infinite numbers, and quotes others in confirmation. He says that the new idea of infinity is that it still remains infinite even after a number is subtracted from it. In other words infinity is spiritual and is inexhaustible like all other spiritual things.

itself, just as there is nothing that could fashion or use machines. In the same way that matter is inert, so it is bound by necessity and is determined by something beyond or outside itself, while spirit is self-acting and free. It will be observed that these new elements and viewpoints in philosophy are suggesting a solution to some of the old problems and revealing false elements in others that remove them from the category of problems. Now we approach the most debated of all these questions, that of free will. Cassius J. Keyser in his *Mole Philosophy* gives us a rather amusing dialogue on freedom which brings out the fact that man is at least free to deliberate, which ends the discussion. Yet freedom to deliberate without freedom to decide would have no meaning. One of Mr. Keyser's debaters points out that all our jurisprudence is based on man's freedom and moral responsibility and he might have added that all history, especially that of recent centuries, including the wars for liberty, has a like basis. Thus do practical facts refute the hair-splitting doctrinaires, just as Zeno's false problem of Achilles and the tortoise was settled by the certain fact that Achilles does overtake the tortoise.

How does the principle of polarity affect this problem of free will? At the pole of the physical we find things necessitated and determined. Then at the spiritual pole they are not necessitated and determined, for, according to our postulate, conditions are exactly reversed at the two poles. It thus becomes apparent that those

who deny freedom are looking at the question solely from the physical standpoint. When they speak of the *weight* of motives they even use physical terminology. History again refutes them, for as man has progressed toward the spiritual, he has also progressed toward an ever greater freedom. I am reminded here of two scriptural texts: "The truth shall make you free" and "Where the spirit of the Lord is there is liberty." Mr. Haldane's remark is again apropos that each science must be treated on its own level. Life cannot be dealt with in terms of physics nor value and interest from the standpoint of physiology. The freedom of the will cannot be decided by the weights and measures of the block universe. Even Thomas Paine, whom most people regard as anything but religious, employs the phrase: "So celestial an article as freedom."

Without freedom the moral universe would crumble, our courts and law books would be a mockery and human history would have no meaning and no goal. From a practical standpoint the freedom of the will simply *has* to be true; and any kind of reasoning that makes it seem untrue proves, not freedom, but itself to be defective. Seen by the light of this principle of polarity, the defect in it becomes plain. Necessity belongs to the pole of matter, the argument for it comes from the materially minded, while the "celestial article," freedom, pertains to the spirit.

The random or indeterminate element already

mentioned, which we found is a probable factor in differentiation, no doubt has a bearing on this problem of freedom. Individual men are differentiated and therefore would incorporate this indeterminate element, which would give them personal freedom, at least to an extent. If we observed great masses of them we should find, as we did in lower orders of animate or inanimate entities, that their *average* behavior would approach a norm, but this would leave a margin for freedom or indeterminateness of individual choice and action. At any rate, man knows in his heart that he is free and every practical consideration proves it.

Next we approach the problem of cause and effect. There is a false element here, also, as we shall discover. It consists in assigning *partial* causes. In the last analysis nothing less than the whole universe is the cause of everything, or anything, in it. No wonder David Hume found no nexus of necessity between events but only sequences; and no wonder the older philosophers were driven to invent four different kinds of causes. I repeat that the whole universe is the cause of everything in it, and that means the whole universe not only in space but in time; and the whole universe in time necessarily involves purpose and end. It is not only an efficient, but a final cause. This is the only way to get rid of the difficulties raised by Kant in his infinite regression of causes.

Which brings us to Kant's famous antinomies. One will suffice to illustrate the four,

since they are all based on the same principle. The first one proved that the world must have had a beginning; and conversely, and by equally valid logic, it proved that the world could not have had a beginning. Obviously both statements could not be true. Just as obviously Kant knew this, so that the net result of his logical foray was to prove the defect of the intellectual methods of approach to the ultimate, the limits of reason. What is the defect? Well, here is a suggestion. In this instance, and in the other three as well, Kant is dealing with a *straight-line infinite*, which we are now convinced is an illusion.

As already remarked, Kant could not prove the existence of God by the intellectual method but did prove it, to his own satisfaction, by the practical. He implied that it had never been intellectually proved. Perhaps it does not need to be proved, for in one form or another, and in varying terminology, every man admits it. He must do so, as a basis for rational thought. If a proof be demanded, I submit, with all humility, the one suggested or implied at the end of the chapter on Relativity, which is in somewhat different terms, as follows:

Proposition 1. The Universe knows itself.

Proof. Man knows the Universe, of which he is a part; but since the part cannot be greater, or wiser, than the whole, the Universe must know itself.

Proposition 2. The Universe knows itself as mind.

Proof. Mind alone knows, hence, if the Universe knows itself at all it must know itself as mind.

Proposition 3. The Universe knows itself as perfect and universal mind.

Proof. Man, being partial, knows the Universe in part; but since the Universe is whole and perfect it must know itself as whole and perfect; and since it knows itself as mind it must know itself as perfect and universal mind.

Proposition 4. Perfect and universal mind is God.

Proof. No proof needed, since that is the definition of God.

As to Zeno's problems, I have already dealt with one, and the only other I remember is that of the moving arrow which Zeno proves does not move at all, since at any given instant it is stationary, etc. This contains two false elements—both abstractions: First, the assumption that anything is ever motionless when nothing is motionless in nature; second, the abstracting of parts and the approach to the whole movement of the arrow from this lower and partial level. There is an intellectual trick in Zeno's problems.

It has been observed that the spiritual hypothesis has been fruitful in solving a number of problems that can not be solved without it. In other words, it works, and thus answers the

final test by which we determine the validity of any hypothesis. My contention is that by this method which is the identical method employed by science, I have proved the existence of spirit beyond reasonable doubt.

We have learned certain other things in our adventure in truth—for one thing, rhythm, the basis of sound, light, electricity and apparently of the whole phenomenal universe, also of the periodicity of day and night, winter and summer, life and death and apparently of successive lives, interspersed by periods of rest and assimilation. We have likewise discovered the ether of space, which is responsive to thought and one state of which is thus organized, through opposite polarities, into vortices and tensions that are the basis of atoms, solar systems and island universes. Next we have learned of relativity both that of subjective idealism and that of the frame of reference due to the motion of the observer compared to that of other systems. Bound up with relativity we have discovered that time is the fourth dimension of space, which should help to rid us of our static and three-dimensional ways of thinking and of our false infinities. Also we have had suggestions as to the use of both intellect and intuition, each correcting the defects of the other and giving us an insight into the nature of things from a double approach. We have learned of values and interests, of the advantage of considering things in their integrity as wholes, of the pragmatic method of evaluating ideas by the way they work, or of

judging a tree by its fruits; of the help of instrumentalism in supplementing the senses, invading the invisible by the aid of special equipment and discovering how things behave under varying conditions and viewed from different angles. We have discovered how the practical governs in nature and in our own lives, how this is a new and valid proof of design and how the practical element cannot be omitted from our equation if we are to reach correct philosophical results. We have found proofs of immortality in the law of continuity, in the theory of conservation, in the evidences brought us by psychical research, in telepathy, in the perfect memory of the extra-conscious mind, in the moral nature of man and in the longings for perfection in our own hearts which point to uses and satisfactions in another life. Finally we have found with Plato that the crown of all things is the Good, that all our discoveries point to God as the one reality; that this is a spiritual universe here and now, and if our vision were clarified we should see it to be such, as God sees it; that we only regard it as imperfect because we behold it fractionally and fragmentarily both in space and in time, but viewed completely in all its dimensions and with its purpose and final ends unfolded, we should know it as the best of possible worlds. These realizations regenerate us from within, heal us in body and mind, and give us a happier and more confident outlook on life both here and hereafter.

We have made one other significant discov-

ery: Not only that the new knowledge has very effectively exploded the old materialistic philosophies of Democritus and the Epicureans on which all the other materialistic systems are to some extent based; but on the other hand it has added vitality and validity to the intuitive and idealistic systems. As examples, I cite the Hindoo philosophy with its different states of ether; Pythagoras, with his basic principle of numbers, corresponding to the number of electrons in the atom and the numerical series of frequencies underlying all phenomena; Plato and his archetypes on which I shall have a final word later; and especially the Hermetic system to which such frequent reference has been made, the basic principles of which are here summarized as follows: (1) "The Universe is Mental." (2) "As above so below; as below so above." The Principle of Correspondence. (3) "Nothing rests; everything moves; everything vibrates." The principle of vibration. (4) Everything is dual; everything has two poles; everything has its pair of opposites; like and unlike are identical in nature but different in degree; extremes meet." The principle of Polarity. (5) "Everything flows out and in; everything has its tides; all things rise and fall; the pendulum swing manifests itself in everything; the measure of the swing to the right is the measure of the swing to the left; rhythm compensates." The principle of Rhythm. (6) "Every cause has its effect, every effect has its cause; everything happens according to law; chance is but a name for

law not recognized; there are many planes of causation but nothing escapes the law." The principle of Cause and Effect. (7) Sex is found throughout the universe.

I know of nothing more striking in the whole history of human thought than the perfect way in which all seven of the fundamental Hermetic principles mentioned above coincide with modern scientific discoveries made nearly twenty centuries after these principles were promulgated. Everyone of them is vital and true today. I have already commented on most of them.

As to the principle of correspondence Swedenborg dealt with this quite fully and found these analogies or similarities throughout Nature. I doubt not that was the thought of Henry Drummond when he wrote, *Natural Law in the Spiritual World*.

The first of the Hermetic principles is that the Universe is mental; it consists of thought. That is the basis of the whole Hegelian philosophy, as it was also of the Platonic philosophy.

The seventh of the postulates of Hermes is that there is sex throughout the universe. I was at first disposed to ignore that as merely a variant of polarity. As I thought about the matter, however, I saw light. Sex is polarity acting through rhythm. I saw the significance of God being called the Father and began to suspect that matter may be from the same root word as mater, a like thought being conveyed by the term, "Mother Nature." God is the father prin-

ciple, the primordial substance is the mother. Through rhythm or energy and motion they beget atoms and all the phenomenal universe.

This series of lessons in one aspect is based on the Hermetic philosophy and is a modern statement or interpretation of its principles.

Before we have our materials complete there is one other question that must be introduced. How does thought shape and control matter? What is the connection between mind and body? The subjoined quotation is from Gustave Geley.* He refers repeatedly to laboratory experiments in which thought forms were created in what he calls ideoplastic substance and in an appendix gives reproductions of twenty-three photographs of such thought-forms in various degrees of development. He suggests this as an explanation of the power that shapes the embryo. The unconscious thoughts and memories that come down from the parents form an etheric body or a body in the ideoplastic substance. The force that forms this is called a "dynamo-psychism." The pattern he calls a "cadre" which Webster defines as a "Nucleus, frame-work, skeleton, or scheme." Dr. Geley says:

The rational concept of the individual in accord with all the facts is as follows:

For the genesis of the individual the essential dynamo-psychism objectifies itself by gradual primordial representations successively conditioning one another.

* *From the Unconscious to the Conscious*, by Dr. Gustave Geley. Trans. by S. DeBrath. Harper & Bros., New York.

According to our present knowledge the primordial representations are:

1. The purely mental;
2. The Vital Dynamism;
3. The single organic substance.

These primordial representations constitute themselves into secondary representations: The mental, by states of consciousness and thoughts; the unique substance by cells and organs. These primordial representations are cadres which remain the same from the birth to the death of the grouping which constitutes the individual. The secondary representations, on the contrary, are perpetually renewed. The cells of the organic complex are born, die and succeed each other very rapidly. The states of consciousness and thoughts follow on one another in the same way, associating, opposing, converging or diverging in a chaos which is co-ordinated only by the directing Self.

In a footnote Dr. Geley adds:

It is curious that the schools of thought called occultist have reached by intuitive or mystical paths a systematization not unlike this.

He could have added that these thought bodies are like the Platonic archetypes except that in actual life the general type or pattern is modified to fit each individual.

Dr. Geley makes a superior dynamo-psychism responsible for the universe and interprets evolution to be a progressive emergence into consciousness of God's purposes and thoughts originally incorporated in the cosmos that is His representation. In the lower orders of life intelligence is in an instinctive or dream state. In man this intelligence becomes conscious, while at the same time, for practical reasons, a reverse

stream of perfected thought processes pass into the habit mind or into the unconscious.

These are our materials, our new factors that strikingly enough recall old factors arrived at intuitively or otherwise by lovers of wisdom in the remote past. Thus brought together, they point to their own interpretation, their own synthesis. One truth they indicate is that we can have no philosophy worthy the name that omits the spiritual factor. Without it we are dealing with half-truths with appearances and mechanisms that have little meaning until we look behind and beyond them. Without it we are encountering unsolvable problems, that under the alembic of the spirit are dissolved and disappear from our path. The spiritual is not discovered by observation or by the intellectual approach alone. I have already likened it to a margin beyond the edges of sense-perception and phenomena. It is like the sun in eclipse. When the eclipse is total, there is yet a corona or rim of light that does not leave the world in complete darkness. So when the spiritual seems eclipsed by the physical universe, there is yet this margin of light.

To complete our synthesis we must venture on a further invasion of the invisible, and this we must do through hypothesis. Yet we are not left to theory alone. We have not only this "margin of light," but all these new facts gathered for us by the special sciences, as well as the conjectures of the old idealistic philosophies that such facts have confirmed. All these elements

have indicated the direction we shall take, and in general outline have shown the form of our hypothesis.

It has already been demonstrated that the cosmos knows itself as perfect and universal mind and is therefore identical with God. The phenomenal universe is His representation.

In this study I am not attempting to reconstruct the Cosmos. That has been done before and is too ambitious a program for one humble individual. Nor am I trying to tell the attributes of God. I leave that to the theologians. Here I am only seeking to set forth the implications and interpretations of the facts we have obtained. As a first step, they fairly compel us to acknowledge that God is. That is enough. As to what He is, we are left to grope. To me He is all. He objectifies Himself in Nature. He multiplies Himself in His emanations, in His children, but this, according to the nature of the spiritual universe, does not subtract from His own being. These emanations are what Leibnitz calls monads. There is one feature of Leibnitz's system that I cannot accept, however. He calls God the chief monad, which would make Him the member of a series. God is the One, and there is none other. The emanations or monads are derived from Him, just as the phenomenal Universe is representative of Him.

In the language of the conventional cosmogony, I should now say, "in the beginning;" but there is no beginning. "From everlasting to everlasting I am God." The curve of space-

time returns upon itself but is endless in both directions. The eternal process is not dependent on time. God is forever renewing and animating the Universe, which is His object, or His other. It is a present tense action. I do not like the word, "creating" for it implies making something out of nothing, which is a human concept having no meaning.

In the pairs of opposites, at the very top of the scale, let us posit mind as the positive and primordial substance as the negative pole, the nexus between them being energy. The first product is the movable ether, the basis of the physical universe. This is polarized into positive and negative electrons which start the vortices called atoms, and set up not only vortexial movements but strains and tensions in the ether, or attractions and repulsions, which grow in force as the atoms are massed together. At the same time cadences and rhythms are generated, one range of which is light. "And God said let there be light." In the same way that the electrons revolve about their nucleus, so, when the atoms mass themselves into suns, planets are carried about these in their own vortices and moons about the planets. None of these things happen by accident, but according to law, the laws corresponding to God's eternal purposes.

When any planet is ready for life, the spirit breaks through into matter in the form of protoplasm and cells, the matrices or cadres of which are formed in the ideoplastic substance,

which may be another ether, or state of the primordial substance.

Now begins the long ascent of Transformation or Evolution. As the first single-cell entities associate themselves in more and more complex organisms, the cadres or forms in the ideoplastic substance advance correspondingly, being formed by the extra-conscious, or dimly conscious mind that is breaking through into matter and pervading it from the spiritual pole of being. The process goes forward not in any mechanical or preordained way, but through trial and error, and by ever-larger accretions of spirit, as the organism becomes fitted to express mind in ever-unfolding degrees of intelligence. The one-cell entities are in a sense immortal, since they multiply by sub-dividing, but as soon as the organisms become at all complex, death appears so that the entity may not remain fixed in the organism and so impede its progress. At the same time the forms or cadres in the ideoplastic substance advance in the same way and participate in the rhythm of life and death. These etheric doubles are the permanent bodies or rather thought-forms of each entity, but there is so slight a consciousness involved that we cannot call them immortal until man emerges into true self-consciousness. They are all eternal, but not consciously so. Immortality is conscious eternality. We thus arrive at the human plane, which has already been treated so fully that it need not be recapitulated here.

This in brief outline is our hypothesis. It is

only offered tentatively as a working basis for further study and investigation. From my own viewpoint, it is not wholly theory. It is justified by the facts we have discovered and is necessary to harmonize and explain them. The process goes forward under the direction of the extra-conscious mind of the cosmos, the *elan vital* of Bergson. This, or its emanations or correspondences in the entities, is at first almost wholly unconscious, but gradually advances into some sort of dim awareness until in man it bursts into flower in intuition and reason.

For practical purposes the entities seem independent and separate. This is a necessary part of the scheme since individuation or differentiation is a feature of the life-process. On the human level it comes into full manifestation as self-consciousness. Yet there is an element of illusion, as well as of impermanency, in this idea of separateness. Here we must again revert to the principle of polarity. If things seem divided on the physical plane they are united on the spiritual. The line is individual but merged in the universal.

God rules over all by a sort of pre-established harmony, as Leibnitz called it. He is not special to any form of life but His powers are available to all to the extent that they are practically needed and consciously or unconsciously invoked. He does not rule through any special intervention but by a telepathic pervasion of all the universe of mind with His Universal Love and Goodness. Being the Absolute He contains,

in idea, all within Himself, including the personality of man, and responds to every entity according to its nature and to the degree of its unfoldment. He knows the Cosmos as His own Divine Mind, which is pictured and objectified by His other, the phenomenal universe, and which is mirrored in the lives and souls of all His creatures.

CHAPTER XV

AFTERTHOUGHTS

A NUMBER of questions have been left "up in the air," so to speak, and our next two chapters will be devoted to these, the present one being occupied with a further discussion of physics and relativity and the last with an application of our results to practical problems.

As to the greater mass of the proton compared with the electron in the atom, it has already been suggested that this is apparently a practical arrangement to insure the relative stability of the protons while the electrons revolve about them as a center. It may be that this greater mass has something to do with attraction, although Mr. Einstein has ascribed gravitational attraction to the "warping of space," which we have already identified with vortex motion in the content, or ether, of space, since space itself is only a frame or dimension.* We find a vortex has this very property belonging to gravitation, since it draws everything into its center. We also observe that all matter tends to vortical motion.

By the way, if we are looking for purpose in

* In Mr. Einstein's later paper in which he identified electrical energy with gravitation and energy generally he implies that attraction may be electrical or rather magnetic which would seem to be borne out by attraction of the positive and negative electrons. Inasmuch as this is, in a sense, an organizing activity and as organization is the peculiar function of mind, it may be after all, that there is a psychic factor involved.

Nature, where can we discover a more signal evidence of it than in the mass of the proton, without which neither the atom nor the physical universe could be constituted in the way it is. At the same time no physical or mechanical reason is apparent which would account for the tremendous disparity in the mass of the two types of electrons. If they are only positive and negative electrical charges, this mass should be the same. Whether or not there is a psychic factor in the proton, as some have supposed, there is certainly something mysterious that may explain much if it is ever known; and there is just as certainly purpose revealed by this whole arrangement.

The atom has been called the building block of matter, but that carried the thought of material atoms, whereas the probability is that these are only vortices of energy. Although mixing metaphors a bit, a scientific friend refers to them as "solar systems of the elemental world" and "outposts of the phenomenal universe." He proposes a theory that would explain electrical conduction and some other phenomena. I have taken the liberty to condense his statement. He refers to the "proton or nucleus, central to orbital vortices traveled by individual points of energy or bound ether, which we term electrons," and infers that their rate of revolution, or rather speed, decreases as they approach the center, since these inside orbits are smaller.

His hypothesis is that the atom is "the source of the entire upper frequency range of vibra-

tions. It is a hetrodyne of frequencies," being able "to convert one band of frequencies into one or more bands of a different order." On the quantum theory of internal displacement, or the jumping of the electrons to orbits arranged in a series, he claims that "an element is not responsive to a given frequency range unless there are electronic orbits in the atoms composing it which are in resonance therewith."

Applied to the light range, this theory operates logically. If a given substance appears red to our eye, it means that there is only one electronic orbit responsive to the light frequencies and this happens to be the one known to our eye as red. A white substance would therefore be responsive orbitally to the entire light range. Black would be just the reverse. Half tones, intermediate to the primary colors, could be accounted for by indirect resonance or the law of harmonics.

The range of vibrations above light also respond to the same laws of orbital resonance, the space-time factor simply being correspondingly smaller. This would seem to be proven by the Millikan ray hypothesis, which places the origin of these rays in inter-stellar space, the source being matter of extreme density, which would mean atoms of great complexity and a wide orbital resonance range.

This theory clearly applies to the electrical range. We can find here a reasonable explanation for electrical conduction. An electrical conductor presupposes atoms whose electronic orbits are resonant to the given electrical frequency. Each atom composing the conducting medium responds through its resonant orbit and transmits the impulse to its neighbors. Partial conduction, shown by resistances, infers the lack of direct orbital resonance, depending on minor harmonics for transmittal. So insulators indicate a lack of practically all electrical resonance.

We see from the above how the atom may transmit vibrations. It also has an apparent role as a converter. Such applications of energy to a substance as friction re-

act on the molecule and thence on the atom. Continued friction produces radiant heat and light. This probably means that the energy application is transformed into successive ranges of vibration by orbital resonance, as before. Sudden impacts may have the same result. It is significant that frictional energy may produce heat and static electricity. Here another orbital resonance comes into play.

There is an additional factor I must introduce at this point. It is from Eddington.* He calls attention to a feature of the quantum theory that we have not yet considered. It involves what he designates as "the atom of action," which is a product of energy multiplied by time, *i. e.*, the amount of energy multiplied by the period of vibration. He mentions sodium and after determining the amount of energy emitted by one atom multiplies this by the vibration period which is five hundred and ten billions to the second and gets a product in what are termed "erg-seconds." This is referred to as the quantum h . He proceeds:

The remarkable law of Nature is that we are continually getting the same numerical results. We may take another source of light—hydrogen, calcium, or any other atom. The energy will be a different number of ergs; the period will be a different number of seconds; but the product will be the same number of erg-seconds. The same applies to X-rays, to gamma rays and to other forms of radiation. It applies to light absorbed by an atom as well as to light emitted . . . Evidently h is a kind of atom—something that coheres as one unit in the processes of radiation; it is not an atom of matter but an atom or, as we usually call it, a *quantum* of the more elusive entity action. Whereas there are ninety-two different kinds of material atoms there is only one quantum of

**The Nature of Physical World* by A. S. Eddington, Macmillan, New York.

action—the same whatever the material is associated with. I say the *same* without reservation. You might perhaps think that there must be some qualitative difference between the quantum of red light and the quantum of blue light, although both contain the same number of erg-seconds; but the apparent difference is only relative to a frame of space and time and does not concern the absolute lump of action.

We thus discover that time is not only the fourth dimension of space, the dimension in which motion and life occur, but it is the coefficient of energy in producing the absolute atom of action, and the measurer of the vibration-frequencies that give us all the phenomena of the universe. By the way, this result furnishes an added proof of Einstein's theory.

There is one thing about time, however, that is not yet made plain. To it there are two possible clues. One is that mentioned by Eddington regarding erg-seconds and the quantum h . The other is much more familiar. It is the principle involved in the lever. The same principle is found in the inclined plane, the wedge, the cog-wheel, the pulley, etc. It consists in a multiplication of power at the expense of time, that is, a relatively fast connected with a slower motion. Suppose we examine this clue first.

Time is the dimension of motion. Both seem to be involved in any kind of multiplication. When we multiply a number we say so many "times" that number. Two times two are four. Is this a mere figure of speech or is something more fundamental involved? In the case of the lever, etc., our power is multiplied by a faster

compared to a slower motion, i.e., the frame of reference of the time factor is changed. The space factor is also involved. If the length of one arm of the lever is four times that of the other, a force of ten pounds will lift forty, but the arc described by the long arm is four times that of the short—the space factor—and the rate of its motion is four times as fast—the time factor. The load lifted is four times the force exerted—the energy factor.

Just what does this mean? Why do we say that power is gained at the expense of *time*? The power is multiplied. Why do we say in all multiplication so many *times*? The physicists, the mechanical physicists, know this principle. They have known it since the days of Archimedes, but so far as I am informed they have not explained it. They have taken it for granted. That is the way with science, and it is a perfectly legitimate way; science describes; but it cannot be the way with philosophy; and nothing, perhaps, could better illustrate the difference between the two. Philosophy must have the meaning, the explanation, as well as the description.

Now, why is it that a faster motion multiplies power as against a slower motion? We know that it does this in the lever, the pulley, etc. We know also that the longer and shorter movements of the corresponding ends of the lever, occurring in the same time interval, involve a change in the relative time and space values. We know, for a third thing, that any sort of motion is like a vibration frequency. Are we get-

ting an inkling, here, of the nature of space and time, or space-time, as related to motion and energy?

To answer this question we must have recourse to our first clue, the quantum h , or the atom of action. We have already found that this quantum is constant, however the two factors of time and energy vary. These exactly balance each other. If the energy is greater the time of the vibration is shorter and *vice-versa*.

But there is another factor involved in the equation, that of space. A vibration covers not only a time interval, but also a space interval. Eddington seemingly overlooked this fact, but the oversight meant nothing in his problem for the reason that the variation in the time and space interval exactly corresponded. A shorter time interval was accompanied by exactly that much shorter space interval. In other words, it became literally a space-time interval in the meaning of the four-dimensional theory.

That condition does not apply to the problem of the lever, however. Here the exact coordination or correlation of the time and space factors ceases. They are violently driven asunder, we might say, by mechanical means. Or, in the Einstein phrase, they are "warped" asunder. The time interval remains the same on both ends of the lever but the space interval is different. This variation must be compensated. How? By a variation of energy or power, the only remaining factor. In other words our two factors are

space-time and energy. The time factor decreases exactly as the energy factor increases so that the product of the two is always the same; but in Mr. Eddington's problem the space factor decreases exactly as does the time factor, so that it does not affect the result, which would have been the same if the space interval had been used as the multiplicand instead of the time interval. The two remain in union as the space-time factor; but in the lever problem, the space interval is only one-fourth on the load end of that on the power-end, while the time element is the same on both, therefore the energy or power factor is four times as great.

Even this does not answer the question as to what space-time, motion and energy are. It merely takes one step in that direction by identifying the principle underlying the lever with that involved in the atom of action. It also gives one additional example of correspondence—"as below so above."

There is yet another interesting fact with regard to the quantum theory. The atoms do not give off light continuously. The action is intermittent, a period of emission followed by a period of rest. It was by contrasting the two that the quantity of energy given out was measured. The fact that half of the atoms are thus out of action is not visible to us for the reason that we look at great masses of them and get the average effect.

Apparently these periods of rest are necessary to replenish the atom's stock of energy.

From what source? Possibly from the surrounding atoms and possibly from the general storehouse. We have already mentioned the second law of thermo-dynamics which is that heat, in doing work, steps down to a lower level and finally becomes latent or static. Now, a motion in one direction generally implies a return motion in the other direction, so, to balance this descent of energy into the static, there must be an equal ascent of other energy units or ergs into the kinetic. Here is a possible source for the restocking of the atoms, or it may even be that the atoms themselves act as converters, as already indicated. Latent or static energy is probably only a low rate of vibration and the rapid motion of the electrons in the atom would raise the vibration of the static energy and convert it into active or dynamic, somewhat as friction generates electricity. In this way the atoms themselves would renew the kinetic energy of the universe. There must be some such process to restock the energy of the atoms so that they can again give off light. This suggests a clue to the nature of energy itself. In one aspect it is only a vibration frequency like electricity, heat and light. This is further suggested by the constant relation between the amount of energy and the wave-length involved in the atom of action or the quantum h . (After all, the space-time continuum is only a sort of frame for its content, the ether.) In this aspect the amount of energy is the vibration frequency, so that the energy volume and the wave interval would only

be different phases of the same thing, and their product would necessarily remain constant. Likewise, this would be true of both the space-interval and time-interval since the two accompany each other and are but different dimensions of the same wave-motion, another proof of the four dimensional theory.* Strictly speaking, however, there are only two dimensions, space and time, since the three dimensions of space are more or less arbitrary.

We now see why the amount of energy, or erg, is exactly measured by the space-time interval, but in a reverse way, since the higher the vibration, the greater the energy. We have thus taken another step in the direction of determining the nature of energy, but have not yet arrived at the goal.

Do we find an additional clue in the name, the "atom of *action*?" Action means an actor and, in the last analysis, the only actor is mind. Have we arrived again at the doors of the spiritual universe? We had already decided that the two poles are mind and primordial substance and that the nexus between them is energy; and now, from a different approach, we arrive at an indication of the same truth. Mind acts on the primary ether through polarity which in turn produces the positive and negative electrons, which start ether vortices, or atoms. The rapid revolution of the electrons generate a vibration

* It may be objected that I am assuming this exact correspondence between the time and space factors in vibration frequencies, and this is true; but it stands to reason and, so far as I am informed, is in accordance with the facts empirically determined; and I am further assuming that, if for the reasons mentioned, or any other, there is a distortion of this perfect correspondence, there must be an energy compensation.

frequency, in other words beget energy. At last we seem to have arrived at a possible hypothesis that would explain all.*

Our tentative explanation covers energy, however. What about the co-ordinate factors, space-time and motion? We have already agreed that space-time is a dimension, or frame. We might say that it is a measure of extension, but extension, itself, is an abstraction. The concrete thing that space-time measures is the content of extension, the *plenum*, or primordial ether. It is also a measure of vibration frequency or motion. A measure is not an explanation, however. In our regression toward more and more primary factors, we have passed beyond the mere measure, let us say, and are facing the "thing in itself." What is motion, what is the primordial ether, and how can one take place in the other?

That question might be termed, in the slang of the day, "a poser." It reminds one of the old German adage, "a fool can ask more than ten wise men can answer." It would almost seem to be an invasion of the sacred precincts of Herbert Spencer's "Unknowable." By the way, Spencer said that, to his mind, there is an infinite abyss between what he called absolute rest and motion and he found no possible way to bridge the chasm. He was struggling with the old impossible problem of Zeno. As a matter of fact, absolute rest is purely imaginary. There is no such thing in nature. It is reasonably cer-

* Judge Thomas Troward in his *Edinburgh Lectures* tells of an interesting experience in Paris in which a sensitized needle was deflected by the life current flowing through the fingers and was more sharply deflected when to this was added an impulse of the will.

tain that if anything could come to "absolute rest," both inside and outside, it would pass out of existence, or, at least, out of the phenomenal universe. But the primary ether and motion do not present impossible problems. Despite Spencer's cosmic inhibition, his thus far and no farther" sign put up in front of the "Unknowable," somebody will solve these problems, sooner or later, and we might as well have our "try." The attempt may involve all sorts of reprehensible temerity and presumption, yet if everyone were driven off by such scarecrows and bogey men, there would be no progress. We only advance by having the divine audacity to venture. The spirit of our age is to get forward by doing the impossible. Truth seekers must have no inferiority complexes or false humilities. In the free air of thought there is perfect democracy.

In the countryside where I was raised there was an old railroad bridge-builder called "Sim" Wright—Simeon M. Wright, to be exact—who was something of a philosopher, and after the Socratic manner, talked his ideas to all and sundry, not even disdaining small boys as an audience. I was too young to know what it was all about, but one thing he said has stuck in my mind through nearly fifty intervening years. It was to the effect that motion is a progressive change of state and he illustrated it by a hot poker moved behind a thin iron sheet. If the heat were visible to one in front of the iron sheet, the progressive change of state would appear as motion. The same would be

true of a magnet passed behind the sheet, or of an electric charge, if our visual reaction and time value were so changed that we could see it. In fact, the electric charge, or current, is most suggestive. An electric current passing through a wire, for example, probably consists of a mere progressive change of state of the atoms.

What is the ether and how does motion take place in it? When most of us are faced by such a fundamental question, we either dodge behind some Spencerian unknowable, or lump the whole thing into a large abstraction that makes nothing plain except our own mental poverty. We say either that man does not and cannot know anything about it, or that Nature does it, or God does it, etc. That gets us exactly nowhere. Are we to make a plea of "we cannot know" and let it go at that, or are we, manlike, to wrestle with the problem, even in the face of almost certain defeat, and attempt to obtain some inkling, or suggestion, of the truth?

The question is so elusive and difficult that perhaps the best we can do is to make various approaches and tentative suggestions.

First, as to the ether, we have already agreed that it must be continuous so that there may be action at a distance, and that it must be susceptible to strains, tensions, vibrations, motions, etc., to account for the other phenomena of the Universe. Now, a continuous substance would necessarily be indivisible. We might think of it as being sufficiently elastic to permit of strains, tensions and vibrations, although even

these present difficulties, but to think of it as being sufficiently elastic to admit of the continuous rotation and orbital revolution of the planets increases these difficulties practically to the point of impossibility. It is this feature that has necessitated the postulating of more than one ether, or ether state.

We encounter a like difficulty with vibration frequencies. We have identified enough of these to indicate that they cover a gamut, or ascending scale, running all the way from zero to infinity. We have already localized the sound range, the radio band of frequencies, the electric and magnetic field, the heat and light spectrum, the ultra-violet, the X-ray, the Millikan or cosmic ray, etc. There must be still higher ranges for if telepathy is true there must be some medium or band of frequencies to carry thought. Indeed, we seem to be encountering a gigantic form of polarity here with the phenomenal universe at one end of the scale and the spiritual at the other. This is not altogether a new idea, for it has been suggested both by religious and scientific writers. One authority supposed that matter, or physical energy, is only spirit slowed down, and another that the biological cells contain a feature analogous to the hetrodyne that transforms or "steps down" the spiritual frequency ranges to those we call the physical.

Now here is our difficulty. If this theory be true, or something in a general way corresponding to it, how can one ether simultaneously carry all these almost infinite ranges of vibrations

and activities? Does not this hypothesis also call for more than one ether state?

Granted that this is true, our hypothesis no longer presents insuperable obstacles, for the ether states, like the frequency rates themselves, are in a sense only varying phases of the one primordial substance and there is no principle that imposes a limit on these phases or frequencies.

Even accepting all this, we have not yet accounted for motion. Here is a clue, the same we found in the atom of action: Motion implies a mover and there is no mover we can think of except mind. Thus we are again led to the doors of the spiritual universe. The identity between vibration-frequencies and more extended movements has already been indicated, for it matters not whether a motion be in the form of a wave, a vortex, or a continuous progress, the principle involved is the same.

There may be some who will object that I myself have resorted to an abstraction in indicating the above answer and if I had nothing further to offer, this might be granted; although we have found the spiritual necessary from so many different angles that it is no longer an empty abstraction, at least, but a working hypothesis. There is, however, a further word, which is this:

Motion is the phenomenal universe. As vibration-frequency we have already found it inseparably bound up with energy, of which space-time is the measure. We thus arrive at the fundamental unity of ether and energy, whose syn-

thesis is motion, the basic reality of the objective universe.

The above conclusion is verified in another way. Motion is but one aspect of becoming, or evolution, which Hegel implied and Herbert Spencer, Bergson and practically all modern philosophers have accepted as the basic activity of nature. It also harmonizes the outstanding oppositions of the old Greek philosophy. Heraclitus made motion or becoming the fundamental truth of the universe, while Parmenides countered that it is not motion but the absolute.

Both were right, their only defect being that each failed to specify which universe, or, rather, which pole of the universe, he meant.

Motion is the fundamental fact of the phenomenal universe while the absolute is the basic truth of the Spiritual Universe—the Absolute Idea.

Of the two Spirit holds priority, for it alone, of all the factors in the Universe, can initiate motion.

The truth that motion is the basis of the phenomenal universe is verified from many different directions. We have already agreed that if anything came to absolute rest, both within and without, it would pass out of the visible world which is proved by the fact that our senses respond only to frequencies and resistances, both of which are forms of motion. The atom consists of motion, energy is produced by motion, light, heat and electricity are motion, mass is governed by motion, sensation is a reaction to motion,

evolution is a progressive motion, activity is motion, space-time is a measure of motion, and so we might continue indefinitely.

Mr. Einstein's relativity has to do with motion, a change in which alters the frame of reference and affects all values. Life is motion, the difference between a living and a dead body is expressed by motion or the lack of it. Resonance, to which we have already referred, is motion. The cycles of all things are measured by motion.

Here is the summing up of the matter :

The Absolute Idea is the dynamic of the Universe, and toward it motion is a progressive unfoldment.

* * *

The question of attraction has yet to be considered, especially gravitation. Mr. Einstein suggests that it is a warp or a hump in space-time in the vicinity of masses of matter. In his last paper, however, he identified gravitation with magnetism, etc. We have seen evidences that vortex motion is also a factor. Let us see if we can work out all of these clues and harmonize the seeming paradoxes.

In the lever problem we found that where there is a longer and shorter connected motion in the same time-interval there must be a compensation in the only other factor, energy. In the revolution of a vortex, such as an atom, a planet, or a solar system, the outside is moving more rapidly than the inside. To illustrate, the earth is approximately eight thousand miles in

diameter. Therefore in its revolution or the revolution of the vortex, a point on the surface will move more rapidly than a point, say four thousand miles from the center and this relative retardation or slower motion will become more pronounced as we approach still nearer to the center. In other words there is a greater space interval, or arc, at the surface which interval is shortened in a graduated series all the way to the center, yet the time interval remains the same. This is the "warp." In the lever we found that this distortion was compensated by energy, i.e., the shorter space interval was accompanied by increase of power. Exactly the same thing happens here. There is a constant increase of energy as we approach the center, hence the attraction of gravitation.

As to magnetism, resonance is also apparently a factor. Things are only attracted by magnetism that are in resonance with the electro-magnetic range of frequencies. As to gravitation the earth covers every frequency range and therefore attracts everything.

In a vortex the "warp" is between the time and space values caused by the concentric circles or orbits, each inside orbit being smaller than the next in series, resulting in a progressive decrease of the space factor and a consequent increase in the compensating energy factor, hence the pull. When I identified this changing time and space value with the multiplying of power as manifested in the lever, I at first doubted it to be a true lever principle since the ful-

crum is at the center of the vortex. The doubt was resolved, however, by the reflection that the load may be between the power and the fulcrum as well as on the opposite ends of the lever with the fulcrum between.

Thus all the factors seemed to be harmonized. The space-time "warp" or "hump" of Einstein, the vortex motion, the atom of action, the lever principle, and all the other elements were included. This not only verified Einstien's theory but made it plain.

It should be stated at this point that all these suggestions are merely tentative. They are not offered as absolute solutions but as possibly indicating directions in which solutions may be obtained. I have had no means for testing their validity, but leave this to others. I only offer them for what they are worth.

Nor does this hypothesis account for all attraction. I have already pointed out how chemical attraction may be caused by too few electrons in the atom, etc. The present suggestion relates particularly to gravitation and magnetism. In the case of the magnet, the familiar experiment with iron filings indicates the presence of the vortex principle.

There is one possible objection to our gravitational hypothesis which is that gravity decreases on the ratio of the inverse Square, which means that it increases at the same rate, while with the lever the power only increases by simple multiplication. It should be remembered, however, that the lever only describes a circle while the planet

is a sphere. Therefore the planet, or other gravitational body, no doubt, involves a compound or spherical vortex. The circumference of a circle increases by simple multiplication, two r times π ($2r \times \pi$) while the surface of the sphere increases with the square, four πr sq. ($4\pi \times r^2$). As yet we know little about vortices, but the law of harmonics involving nodal points, is suggestive, also the action of a magnet which creates a sphere with decrease or increase of power also on the ratio of the square. We have already seen, with Einstein, that magnetism, in its limited resonance range, is similar to gravity, which is universal.

The principle of the gravity pull itself would seem simple and plain. The need for compensating energy at the center of the vortex would draw energy units from the outside, which, so moving, would be what we call matter, since we have already determined matter to be moving energy.*

The will of God is energy which produces action in the phenomenal universe, just as the will of man produces action in his more limited sphere. All resolves itself finally to the infinite will and idea as seen by Schopenhauer.

God's idea is executed by His will which energizes the primordial ether, polarizes the protons and electrons and begets matter which is the moving energy or energized state of the basic substance. Apparently the same law of the vor-

* The same principle may be observed in the spinning top or gyroscope, and develops the tremendous energy at the center of the cyclone or waterspout. Men blindfolded walk in circles, which fact is suggestive.

tex is at work in the atom in the attraction of the protons and electrons.

As to repulsion that is sometimes accounted for by similar polarity, an overplus of either positive or negative electrons in two repellant atoms, also, perhaps, a matter of discordant resonance, etc. Philosophy can only suggest in matters such as these, leaving the verification to scientific experiment. If any of these tentative suggestions are deemed of interest, such details of verification are left to those better fitted by training and equipment to conduct them.

In these closing chapters perhaps one word further should be said as to method. My only claim is to employ the intuitive as well as the intellectual method and to include the spiritual as well as the physical factors. Lest there be any misapprehension, however, may I add that by spiritual I do not mean psychic? In my own person I have never had a psychic experience, which I recognized as such. I have only offered one previously unpublished psychic message in this entire book and I believe this to be wrong. Some reference was made to mystical experiences, but these were wholly internal and related to thought, the only sort of spiritual experiences I have ever had or sought.

As to the difference between the psychic and spiritual, here is a possible suggestion that may be helpful:

The psychic corresponds to the sub-conscious, the spiritual to the super-conscious.

* * *

To sum up this chapter, we have identified the Absolute as the Absolute or Divine Idea at the spiritual pole of the Universe. It is the dynamic that begets motion or becoming as the fundamental reality at the other pole of the phenomenal. Herbert Spencer once went so far as to identify this ultimate material factor with force or energy, which in a sense is the same thing, since we might designate force as motion in the making, or motion as the manifestation of force. In other words force or energy is only possible motion. The proof that motion is the ultimate reality of phenomena becomes absolute when we reflect that all man's sense reactions are from the stimulus of motion which thus becomes the means by which we know objects. In reality motion is the only objective universe we do know. On the other hand, mind begets motion and thus acts on the physical. The fundamental reality from both viewpoints is motion, or, to follow the thought a step farther, action.*

When Descartes and Spinoza referred to thought and extension as the two fundamentals, they were talking of a static universe, that being the three-dimensional aspect in which things were then regarded. Now we have the four-dimensional way of thinking, which gives us, not a static, but a living and becoming universe, the great common denominators of which are purpose or idea and motion or action.

We have also learned that heat, light, electri-

* The identity of motion and action suggests the identity between the physical and spiritual universe. Motion is the physical universe, action is the spiritual universe. Thus, as both Leibnitz and Berkeley saw, everything resolves itself back to God's action.

city and all other forms of energy are vibration frequencies of which space-time is the measure, so that the amount of energy multiplied by the frequency period gives a constant product, but that when space and time are warped asunder by a lever or other similar mechanical device, which thus changes the relative space and time values, there is an energy or power compensation; and that precisely the same thing happens in the case of a vortex with progressively diminishing orbits. This gives us attraction toward the center of the vortex where the compensating energy is greatest. Gravitation is this vorticial attraction on a magnified scale. It attracts all objects, since it is in resonance with all bands of frequencies. Magnetism only attracts those objects resonant to the electro-magnetic band. On the same principle, only those metals are electrical conductors which are resonant to the same range.

There is an obscure factor right here. Why does not any form of energy act universally on all objects? We have already determined that energy is only a vibration frequency and evidently any form of it does not act universally unless it covers and includes all frequency ranges.

We have likewise seen that the universe of motion is what we might call the kinetic phase of the primordial ether and that there is no principle imposing a limit on either the phases or frequencies of this ultimate substance. Apparently the frequency rates extend all the way

from the zero of space to the telepathic rates of thought and the spiritual universe.

I must beg the reader's pardon for these repetitions, but the subject is so difficult that I have adopted the policy of restating things in various ways to make sure that they are understood, or, at least, understandable.

CHAPTER XVI

PRACTICAL IDEALISM

WE now approach the practical application of our results which will involve a slight shifting of terms.

Our philosophical synthensis points beyond itself to a religious synthesis. It has removed some of the obstacles and cleared the road to a harmony between science and religion. It has made plain that the Universe is mind and motion, that Nature is the outpicturing of mind, and that life is the process through which mind acts and becomes conscious of itself.

Man has always known these truths, not clearly and in detail, but dimly and in general outline. He only becomes doubtful when confused with too much minutiae which he fails to relate properly to the general scheme. He has always known God and immortality, as is proved by all religions and practically all philosophies. I say always, but this knowledge has been progressive and has grown clearer as man has advanced in intelligence. As already remarked, God's ideas are telepathically present in His universe and are available to us as we ascend the scale and become more receptive. Even Jove hurling the thunderbolt is a somewhat crude and con-

fused recognition of Divine Mind building matter through the use of electrical energy.

We need more spirituality. That is our key-thought. The spirit alone is immortal, the spirit alone is self-active, the spirit alone is life, love, wisdom and truth. In it we reach our greatest common denominator.

We have referred to matter as the antithesis of spirit, but in the course of these studies, we have reduced matter to motion and becoming. We must seek an apter and more descriptive term. We could call it Nature, but that is not sufficiently distinctive. Nature includes the subjective as well as objective element. Perhaps the right word is mechanism, which is organized motion. If we examine the phenomenal universe more attentively, we discover that it behaves like a machine, a gigantic cosmical machine. That gives us our opposite key-word, or common denominator.

The special sciences have to do with this machine. They busy themselves with analyzing and describing it. They observe the perfect co-ordination of its parts and laws. They and their votaries are lost in wonder, so lost that many of them forget or ignore the other phase of being altogether. In effect they deify the machine and erect altars to it in the form of a mechanistic philosophy which is manifested outwardly in a machine age. And all the time they are omitting from their equation the simple and obvious fact that mechanism by its very nature is only a function of something else. It is not self-act-

ing, not original; it is derived. Any philosophy based upon it is a cart-before-the-horse philosophy. It results in such strange inversions as placing behavior before its mental cause, brain before mind, the implement before the user, and the part before the whole. It turns the Universe into a mindless automaton. In the name of science, it adopts a method so unscientific as to ignore the biggest and most apparent fact of all, the very fact by which science itself proceeds, the presence of mind in man. As a consequence, it also ignores or denies mind in the whole of which man is a part. It will not work. We cannot substitute a machine in place of God.

A friend who is of a scientific turn of mind objects to my use of the word spirit, as the other term of our equation. He says it smacks of the old philosophy. He proposes the word life as, at least, more modern. Terminology is a bit arbitrary, at best, but in this instance there is a real reason for using the word, spirit, since there is no other term that has quite the same fundamental and comprehensive significance. The word life refers especially to biological processes. In a way it unites both poles, while spirit belongs to the one. The word mind is a more perfect synonym, but mind is popularly identified with the human intellect, which again is essentially different from the spiritual. Probably the exact meaning of spirit is indicated by an idea already mentioned, the mind of God telepathically present in His Universe. We cannot do without the word spirit any more than

we can do without the fact for which it stands.

For the purposes of this discussion, however, I am disposed to adopt the word mind as the opposite pole to mechanism, but it must be understood that it is universal mind that is meant. I adopt it for two reasons, first on the scientific principle that we should employ a known term rather than one less well known and, second, because mind is the most perfect antithesis to machine. It should be explained that the two poles shade into each other and have varying degrees connecting them, as for example, light and darkness, or cold and heat with all the shades of luminosity or degrees of warmth between. Mind as it approaches mechanism passes through degrees such as habit, instinct, the subconscious, etc., and conversely mechanism, as it approaches mind, develops use, function, organ and the like.

We are agreed, then, that our two poles, or antitheses, for this present discussion, are mind and mechanism, which are a humanized form of the absolute and motion. We have discovered, likewise, that these have a most intimate relation to life, especially in this age. To the discussion of a few of the questions thus suggested, the remainder of this chapter will be devoted.

The machine is intended to free man, not to enslave him. I have already pointed out how this is brought about. The processes that have been perfected are delegated to organs, conscious or unconscious instincts, habits, or to tools and machines proper outside of the organism. By so

delegating these tasks, the conscious mind is left free to attend to other things, exactly as the head of a factory or a business is left free to attend to large affairs by delegating the routine tasks to subordinates or to mechanical devices. This principle is of immense importance at the present time, in what has come to be known as the machine age. Julius Barnes said he could measure the advancement of a civilization by the number and quality of the machines in use. To-day, especially in Western Europe and America, the output of each worker is multiplied many fold—some estimate as high as twenty or thirty fold—by mechanical equipment. This is not alone due to machines but to system, standardization, improved technique, etc., which themselves contain a mechanical element, in the broad sense in which I am using the word. All this should not only result in liberating, but in otherwise enriching and bettering the workers, as well as the employers and the general public. It does do this to some extent, and would do it to a greater degree, except for the element of selfishness that tends to divert or appropriate to the few the benefits that should go to the workers and in a degree to all citizens. Yet approximately a century ago we had in England an industrial revolt against the introduction of machines that, it was charged, were taking the "bread out of the laborers' mouths," and today we are having a national strike in India largely for the same reason. At the same time there is unemployment in many lands, overproduction

and distress among farmers and workers indicating that they have not duly shared in the increased prosperity brought about by labor-saving devices, all of which would indicate that our economic and social welfare development has not kept pace with our mechanical.

Other counts in the indictment against the machine, especially as it concerns industry, are that it stifles initiative and excellence of workmanship; that it makes man himself a cog in a machine, limiting him to some slight detail in the process of manufacture; that it robs him of pride in the product and so of interest in his work, beyond the mere physical demands of making a livelihood; that it tends to standardization in every line which in itself is a mechanical process; that it results in overproduction and so throws men out of work; and, last, and worst of all, that it tends to exalt the machine and machine methods at the expense of flesh and blood and of the human spirit.

In both business and industry another tendency is apparent that is in a sense mechanical and is an inevitable product of the machine age. I refer to the organization of ever greater aggregations of capital, such as trusts, corporations, combinations in restraint of competition, chain stores, chain banks, etc., that not only stifles individual enterprise, since it forces the great masses of men and women into the employee class, but also discourages community building, drives the small merchant out of business, and cheapens not only products but life and the high-

er values of the mind. Through this over-organization of capital, the unquestioned economies that result from mass production and from more efficient methods of distribution are not equitably divided but go more and more to the increased enrichment of a class.

All these and other charges, one other charge against the machine being that it tends to make everything artificial and leads men away from the simple life, are brought against the machine and machine methods, and while the picture may be overdrawn, there is enough truth in it to cause genuine disquiet among thinking people. In some degree, no doubt, the evils complained of are due to lack of adjustment. Science and invention have been moving so rapidly during the past century that it has been impossible to keep up with them and to adjust our social organism to the changes they have necessitated.

What is the remedy? Obviously we cannot scrap or abandon the machines and go back to more primitive methods of production and trade. That would not be in the direction of progress. The mechanizing trend has been going on from the beginning of manifest life, first in biological processes, then in sociological. It is a part of evolution. There is nothing evil in the machine *per se*. Rightly used, it makes for convenience, speed, leisure and a higher level of life and culture. But man must never allow it to enslave or subordinate him. Rightly understood it is only a tool or extension of mind. We must regard the whole question with the right perspective

and sense of proportion. Neither the machine nor the corporation, we say, has a soul. Yet that is no reason the people who utilize them should not have souls. Perhaps the remedy lies in spiritualizing our thought and humanizing our methods. Democratize the machine and make it impossible for selfish groups and blocs to control it exclusively. Selfishness belongs to our animal natures. Spiritualize mankind and all these questions will take care of themselves.

Not only are business and industry affected by the machine age but politics and government. The names political and governmental machines are descriptive. Much of the misgovernment of our cities is due to the machines and machine politicians. Today in America we have two political parties that correspond to no natural division in public opinion and are only kept alive apparently by the force of tradition and the tendency of a machine or any other organic entity to perpetuate itself. There is also a tendency of these entities toward aggrandizement through more and more elaborate organization. The almost inevitable result is to overorganize. We apparently have an example of that in the centralization and multiplication of bureaus at Washington, just as they had a few years ago in the bureaucracy of Russia and as is found, to some extent, in most of the nations of the world. Some one has remarked that it is easy to start a new governmental bureau, but almost impossible to stop it when once started. The over-producton of laws in the United States

and other nations is another illustration. The national and state legislatures are organized to make laws. That is their reason for being. So they all continue to grind out this product till the statute books will not hold the avalanches of laws and neither the courts nor lawyers, much less the common citizens, can keep track of them. This process defeats its own end, for if there are too many laws, the tendency of the people is to ignore all of them. Over-organization reaches its practical limit here, as elsewhere.

A similar trend is observable in armies, navies and war machines generally. Having been organized for that special purpose, that is the special purpose they follow. The same is true of professional patriotic societies whose standardized product is patriotism. If the peoples of the world really want peace, they should take this factor into consideration and not listen too much to the professional patriots and war-makers. The machine is headed in a certain direction, just as is the psychology of those who run it, and it and they have a tendency to keep on the customary course even against the better judgment of the world. That may be one reason the peace conferences encounter such difficulties. The military and nationalistic machines are organized the other way and tenaciously hold on to both their habits and equipment. The late World War was fought by mechanical methods and was started by a military machine.

Not only does mechanism tend to over-aggrandizement and over-organization but forgets

its maker, which is mind, and throttles or thwarts the free spirit of man. It becomes a Frankenstein to destroy its author. While on the subject of government, I suspect that Bolshevism in Russia is also too mechanistic. It depends too much on force and too little on the spontaneous movement of the human soul toward betterment. It is too atheistic and, like the French Revolution, will break down from that and kindred causes. Man cannot build up a permanent order on such an inverted truth as economic determinism. Neither can he force the sort of communism on the world that does violence to the love of natural justice. Each man is entitled to that which he produces, or its equivalent, or to the equivalent of the service he renders. All these forced Milleniums (or Millenia, as you prefer) are too mechanical and artificial to be lasting. Sovietism, as is also true of Karl Marx Socialism, contains another false element, class consciousness. This involves a doctrine of hatred, which is destructive, not constructive. We need not altogether wonder at it in Europe, for it is obviously a reaction, a reverse swing of the social pendulum, from the centuries of aristocratic class consciousness. An abuse in one direction usually breeds a similar one in the other direction, another example of the antithesis. Even though intelligible, however, class consciousness is not intelligent and cannot be defended. Bolshevism has served one good purpose—as an object lesson.

Scarcely any developments of life have been

left unaffected by mechanism and the modern trends with which we are dealing. Even education and art are—I am almost tempted to say—their victims. Not only have great institutions of learning been endowed—or subsidized—by those who have grown rich by the methods of big business, which fact, even without intention, may involve a subtle kind of propaganda, but is there not too much of a tendency toward standardization and uniformity, to develop the deepest and finest in the pupils? Can we conceive a Lincoln coming out of one of these schools, or a Shakespeare, or Socrates? Building character and genius is not a matter of dead-level uniformity or mechanical standardization.

As for art, that belongs to the realm of the spirit and does not mix with the mechanical any more than the proverbial oil with water. When ever I see one of these futuristic monstrosities with its chaos of blocks I have an uneasy feeling that it is symbolical of Art being invaded by the Materialism of the block universe. In the same way jazz music is built around the beat of a drum and gives me an stavistic feeling of the jungle, the wild orgy and voodoo. Some one has said that when a drum beats man stops thinking. In a way all these things are the by-products of the machine age. No one will ever get anywhere in art by a mechanical performance whether in poetry, painting, music or the drama. No matter how perfect the technique, or how “faultily faultless” the product,

if it lacks soul or meaning, it has no message or appeal to the human spirit.

Mechanism has even invaded religion, producing standardized prayers, formalistic worship and iron-clad creeds and dogmas. The mechanical is quite as deadly to devotion as it is to art. Even sectarianism smells of the party convention and the armed camp. If it is replied that differentiation belongs to all life, it must be admitted that is true on the biological plane but not on the heavenly. There we expect concord and unity. Sectarian division recalls the warfare of the animal, not the peace of the spirit. Splitting over technicalities is a favorite pastime of the intellect, and those who indulge in it advertise themselves as subjects of the kingdom of the intellect and not of the realm of divine grace. Human brotherhood, like freedom, is a celestial product.

The thing that did more than any other one thing to discredit the argument for design was that it contained a mechanistic element which left man no choice. It was too much like fatalism. We should substitute for the harsher word, design, the gentler word, purpose. God wins through love rather than compels through force. No one can look at Nature with any insight or understanding and fail to see purpose staring him in the face from every forest nook and from every pair of eyes that are the windows of life. Purpose in Nature becomes absolute determinism, because there is no principle to oppose it; but in man it is moral determinism, because of

free will. This removes Bergson's objection to design that it means fatalism, like predestination or foreordination, because moral determinism leaves a margin for choice. Absolute determinism would itself be mechanical and would make man only an automaton, but since man is spiritual and a child of God, he partakes of God's freedom. Returning to religion, when it rids itself of mechanism and of the spirit of faction and condemnation it will become truly representative of the spiritual universe.

There is one important characteristic of overorganization we should not forget. It may reach a point where it breaks down of its own weight. There is a limit in every organism to its too great elaboration. Just as there is a practical reason for death which is that we may not become fixed in our own mechanism, so there is a practical reason not to become fixed in these artificial mechanisms. Even the nautilus abandons its old shell when outgrown.

Referring again to the effects of mechanism in the various departments of life, here are a few suggested remedies:

As to the industrial problem, one answer is democratic ownership and management. Let the workers own stock, share in the profits, govern themselves through what is known as the Bethlehem plan, or something similar. Under the Bethlehem plan the workers have an assembly of their own in which they settle most of the grievances and complaints that come from their own ranks, only appealing to the executives in

the more difficult cases. They also have a voice in shop management.

Encourage the general public to own stock in these great plants. These remarks also apply to business. It is fortunate that there is already a decided trend in this direction in America, especially among the railroads and big industrial enterprises. Finally, apply the Golden Rule to business and industry, as was done so successfully by the late Arthur Nash. Such measures will increase interest and good will both among the employers and employees and will tend to prevent strikes. One other remedy that naturally suggests itself is to enforce the laws against the trusts, chain stores and the like, yet we have been trying to enforce such laws for nearly fifty years without any very signal results.

The answer to the political problem is likewise more democracy. Public spirit and true devotion to service will also help. Finally there should be sincere love of country, or real patriotism, as opposed to the professional or machine variety.

The same answer in a general way applies to education. Let the pupils govern themselves, as has been done with such signal success in many schools. Elective studies, manual training and practical training for real life as we find it are other steps in a progressive direction. Finally, eliminate machine methods, as far as possible, also the poison of subtle propaganda.

Thus far we have found democracy to be our common denominator. Democracy is a spiritual

product. It came as a protest against the old machine methods of monarchy and aristocratic class rule. It contains the elements of equality, fraternity and liberty, all of which are spiritual. It is harmonious with the teachings of Jesus Christ, who was rightfully called "the first democrat." It frees the human spirit, not only politically but psychologically, *i.e.*, from class distinctions and inferiority complexes which is most important.

As to art, religion, peace, etc., these all belong peculiarly to the spiritual realm, so that the remedy must be spiritual. As already pointed out spirituality would dissolve sectarianism and mechanical worship.

My final plea is, therefore, a repetition of one already uttered. It is for spirituality. Just government plus spirituality will end war. Enlightened science plus spirituality will banish disease. Right thought plus spirituality will dissipate doubt and fear. Interested toil plus spirituality will remove poverty and failure.

We need the tonic of a right philosophy. We need eyes far-sighted and clear-sighted enough to discern the reality from the seeming. We need intellect yoked to intuition—intellect that is a bad master but a good servant—that with the aid of this twain we can look behind the mask of appearance and see the loving face of God.

* * *

One last word on Psychic Phenomena! There are several objections to the spiritistic hypothesis, some valid and some not. One takes the

following form: A slight blow on the head may bring unconsciousness. Where, then, is the spirit? A harder blow brings death. Shall we say that the slight blow produces unconsciousness and the harder one restores it on a higher plane? The answer would seem to hinge on the practical—the light blow produces unconsciousness for a practical reason, to protect the organism from pain it could not bear, while the harder shock removes this necessity and the whole consciousness is then shifted to the etheric body, where the practical argument is all the other way, i.e., for the revival of consciousness so that the sum total of experience and its value may not be lost.

But, says the objector this is an argument for animism, which scientists now generally reject.

The objection to animism, so-called, is almost purely a materialistic one. Wm. McDougall, who after Wm. James is perhaps our most celebrated psychologist, adheres to animism. It is not a question of opinion, however, but of fact. I have already shown the necessity of an etheric body to supply the necessary nexus between the mind and physical body, also a cadre, or framework for the embryo. I have also mentioned those who have actually seen the etheric body in cases of apparitions, etc.

There are other objections to both the spiritistic theory and practice, however, that are more serious: First, they give us no results of real value, except a possible materialistic proof of immortality; second, they subject us to the peril

of contact with undesirable entities; and, third, they distract us from dependence on the one God—the God within—and cause us to rely on inferior intelligences which is not only a weakening process, but possibly one of enslavement; fourth, the whole spiritistic approach is neither practical nor entirely wholesome. I am not attempting to answer these objections, but instead am giving my own view on this entire subject, which in brief is this:

The method of communication between the dead and the living is telepathic. This is implied by Dr. Hudson and proved by Mr. Stead. Moreover it seems to harmonize with, and explain, all the facts. In suggesting telepathy as the true method of spiritual communion, this should not be confused with the argument of those who would confine such telepathy to the living. I mean it especially to apply to intercommunication across the border between the two planes.

Telepathic communication is through the extra-conscious mind. Mr. Stead thus communicated with both the dead and the living. The messages from the living were verified and those with the dead were proved on the basis of any rules of evidence of which I have knowledge. But both were telepathic. Moreover every religion, as well as the universal experience of mankind, seems to approve the telepathic method as wholesome, helpful, ethical and practical.*

* I do not question that a discarnate entity may, to an extent, control the organism of the medium. What I do question is that this is wholly desirable or produces the best results.

From the practical standpoint there is little or nothing to be gained by dabbling in the psychic. Our real communion with the dead and with the spiritual universe is telepathic and this sort of communion man has always enjoyed. It is not tinctured with fraud, commercialism, "signs and wonders," or dramatization by the conscious or sub-conscious mind of the medium. Its results may be rare, but they are right and reasonable.

* * *

What, then, are we to say of reincarnation? Dr. Gustave Geley approaches this question from the scientific angle. He shows how the whole evolutionary process is a movement from the unconscious to the conscious. The divine emanation, or monad, is representative of the universe, but at first unconsciously and only in potency. Then the latent mounts into the kinetic, in a way analogous to the ascent of energy, and, like energy again, it rises through rhythmic movement. More and more the possible becomes actual, the unconscious becomes conscious. This process we call evolution. At first it is outer, or manifested by changing form, but when the level of self-consciousness is reached and the monad emerges as man, the evolutionary stream turns inward. While this stage is being traversed, however, the memory is unconscious as the mind powers were in earlier stages. At the long last, the whole monad emerges, with its possibilities become realities, including the memory of all its lives and it knows

itself, "even as it is known," a full-fledged son of God.

Says Dr. Geley:

What, then, does death matter? It destroys only a semblance, a temporary representation. The true and indestructible individuality assimilates and so preserves all the acquirements of the transitory personality; then bathed for a time in the water of Lethe, it materializes anew in personality and thus continues its evolution indefinitely. Yes, that is what Nature teaches us very clearly and Nature never lies.

Every new life necessarily implies a temporary restriction of the individuality. Every embodiment, or representation on the material plane implies a limitation of all psychic activities by the field of cerebral action and its organic memory.

But below that cerebral memory, the profound memory remains indelible and permanent, retaining all its past acquisitions, though these are for the most part cryptoid.

My own view, which is confirmed by memories, or seeming memories, is that a soul carries the same character from life to life and, to some extent, the same appearance; that a sudden or violent death, before the life impulse is spent, means a correspondingly early return and that the memory is carried, but infinitesimally, so that it does not arise above the clamor of the objective life.

It is also my view that nothing is practically gained by over emphasizing the question, until the soul does come into its own and its past and future are unfolded. Until that time dwelling on this matter by the sense-mind may lead to distractions and even hallucinations.

* * *

Another word should, perhaps, be said on

psychotherapy or spiritual healing. This is of value not only from the standpoint of truth but from that of the practical. It is a mistake to think that the best results can be reached in this field by scientific methods alone.

Faith is the medicine of the psyche, and nothing arouses the full power of faith like religion and the awakening of the spirit. The power that created the organism alone can repair it. In this connection, however, I desire to pay my tribute to scientific medicine. I could not be one hundred percent loyal to the truth and do less. Any method of healing is divine, and in my own humble view the practical idea we should hold in view is a union of the two methods—faith and science—in order that the sick may have the benefit of all possible curative agencies.

In this connection a member of my class in Washington by self-treatment and spiritual methods alone was healed in a rather remarkable way. I have her permission to mention an account of this in her own words. I vouch for the facts, of which there is no question:

One of my demonstrations made two years ago last June may be of help to someone who is burdened with the wearing of glasses. I wore them continuously from September 23, 1903, to June 1927, a period of approximately twenty-five years, for nearsight and astigmatism, and was almost blind on the street without them, and could not distinguish the features of anyone in any average sized room being able to tell where the features were supposed to be only by the lights and shadows—all was a blur. I was then in my forty-ninth year, when according to the old orthodox idea, one naturally expects the eyesight to fail because of advancing years, necessitating new

and stronger glasses. While I was giving myself Truth treatments, the old race thought told me that advancing years was my trouble, but in this instance procrastination saved the day for me, as in the meantime I discovered that I could see just as well without my glasses as with them, so I put them away, and have not seen them since, which freedom has been one of the great joys of my life; also the realization that by my knowledge of metaphysical or Universal laws, and contact with my own Divine inner forces, I had been able to accomplish that which the finest eye specialists in the world could not do, namely, to round out the faulty curvature of the cornea, which according to Funk and Wagnall's Standard Dictionary, is the cause of astigmatism. I have not yet learned what corrected the nearsight, but, that too, has disappeared.

* * *

No treatment of the practical would be complete without a reference to moral philosophy and the question of evil. On the basis of polarity, evil is only the opposite of good. It is therefore more of a question for the individual than for metaphysics. It is a test of and a discipline for, the soul. It is our means of strengthening the moral nature, as work is that of gaining bodily strength. It is only through a free choice between good and evil that man gains moral worth and escapes being an automaton. Activity is the very nature of the spirit and of the universe it animates and it is through work and through moral activity that man touches the noumenon or "thing in itself" and becomes one with reality. This is the soul's pathway to God, as marked out by the "Way-Shower," the greatest moral force that ever came into this world, Jesus of Nazareth.

* * *

We are at the beginning of a new age; a new age in religion; a new age in philosophy; a new age in world politics. Science, that has done so much in shaping environment, in providing outward comforts and conveniences—science, at last, is to turn its attention to the finer and the higher forces within. As we make progress in that science we shall gain power to make greater progress, and no man can measure the results of another century or of the many centuries that are before us. This prospect not only invites us but challenges us, for we are, in a peculiar sense, the builders of that new world. We are pioneers but are more fortunately situated than the pioneers in earlier days because they not only had to meet neglect and lack of appreciation and understanding, but more active forms of hostility. They were stoned, reviled, imprisoned, crucified and met with every form of misunderstanding, persecution, misrepresentation and hatred, and all this from those they sought to heal and save and to whom they gave the richest treasures of their lives. Out of all this we hear one cry that rings down the ages, "Father, forgive them, for they know not what they do." Because of their sufferings we are safe. From their agony they left us a heritage of security. We do not now meet these active forms of hostility and opposition. The world has become less hostile to new ideas because it has found the value of inventions and discoveries, the practical utility of truth. These things have worth because they work to produce good results in

ways that can be measured and understood by the masses.

We started this study, not knowing exactly where it would lead, but I trust we leave it with a larger vision and a surer hope.

Our first lesson was Philosophical Idealism, which we have subjected to the test by fire of examination and use, to have it come forth as the pure gold of Practical Idealism.

CHAPTER XVII

CONCLUSION

In Plato's celebrated allegory of the cave he represents life as a play of shadows. This allegory in condensed form follows:

Behold! human beings living in an underground den, which has a mouth open toward the light. Here they have been from childhood, and have their legs and necks chained so that they cannot move, and can only see before them. Above and behind them a fire is blazing at a distance, and between the fire and prisoners there is a raised way, a low wall built along the way, like the screen which marionette-players have in front of them, over which they show the puppets. Men are passing along the wall carrying all sorts of vessels, and statues and figures of animals which appear over the wall. Some of them are talking, others silent like ourselves, and they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the cave. Of the objects which are being carried in like manner there are only the shadows. Suppose further that the prison had an echo which came from the other side, and when one of the passers-by spoke the voice seems to come from the passing shadow. What will naturally follow if the prisoners are released and disabused of their error? At first when any one is liberated and compelled suddenly to stand up and turn his neck around and walk and look toward 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 had seen the shadows. Conceive someone saying to him that what he saw before was an illusion, but that what now he sees is a clearer vision. What will be his reply? Will he not fancy that the shadows which he formerly saw are truer than the

objects which are now shown to him? 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?

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. He will be required to grow accustomed to the sight of the upper world. At first he will see the shadows best, next the reflections of men and other objects in the water, and then the objects themselves; then he will gaze upon the light of the moon and the stars and the spangled heaven; and he will see the sky and the stars by night better than the sun or the light of the sun by day.

Last of all he will be able to see the sun, and not mere reflections of him in the water, but he will see him in his own proper place, and not in another; and he will contemplate him as he is.

This entire allegory represents life; the prison-house is the world of sight, the light of the fire is the sun, the journey upward is the ascent of the soul into the intellectual world. In the world of knowledge the idea of good appears last of all and is seen only with an effort, and when seen is the universal author of all things beautiful and right, parent of light and of the lord of light in this visible world.

Emerson said that an institution is the lengthened shadow of a man, and in the same way we may speak of the universe as the lengthened shadow of God. It is in this sense that the phenomenal world is shadow or illusion, or, as the Hindus call it, *Maya*.

Let us suppose another allegorical representation: The realities of this universe are the posi-

tive attributes of God—absolute good, beauty, truth, wisdom, life, health, supply, love, freedom, joy and the other qualities that go to make up the idea of perfection. We will suppose that each of these qualities and of all of the other real things of God's perfect idea are reflected outwardly from the center of things in shadows that extend to the very bounds of the universe, but each shadow becomes darker and thus lessens in degree as it proceeds farther from the center so that at the other pole or outermost circumference the original quality of good, beauty, truth, etc., appears as nothingness, or as evil, ugliness and error.

It requires some such figure to make clear to us what happens in the world of phenomena, for here we find everything in degrees. We find everything adulterated with nothingness. Here we also find a show or representation of things, a shadow world on a three dimensional plane. Things are limited, impermanent and forever changing into something else. We also find the chaotic elements of chance, caprice, indeterminateness and variation.

"God geometrizes," said Plato, and the thought is echoed by Einstein and by the great modern astronomer, Sir James Jeans, who not only revives the idealism of Plato but that of Berkeley. In the Rede Memorial Lecture in Cambridge, 1930, Sir James said, as reported in the *New York Times*:

Neither biology nor engineering has been successful in helping to fathom the mysteries of the universe. Nature

is more closely allied to the concepts of pure mathematics, structures of pure thought.

To my mind the laws which nature obeys are less suggestive of those which a machine obeys in its motion than of those a musician obeys in writing a fugue or a poet in composing a sonnet. The motions of electrons and atoms do not resemble the parts of a locomotive so much as those of dancers in a cotillion.

If all this is so, then the universe can best be pictured—though still very imperfectly and inadequately—as consisting of pure thought, the thought of what for want of a better word we must describe as a mathematical thinker.

We discover that the universe shows evidence of a designing or controlling power that has something in common with our own individual minds—not emotion, morality or aesthetic appreciation, but a tendency to think in a way which for want of a better word we describe as mathematical.

Sir James, who as an astronomer has explored the frontiers of human knowledge, reaffirmed the belief of Bishop Berkeley, in the early eighteenth century, that “all the choir of heaven and the furniture of earth, all those bodies which compose the mighty frame of the world, have not any substance without the mind.”

In trying to picture the vastness of the universe, Sir James adapted an image of Plato's, saying that “man is still imprisoned in a cave, with his back to the light and can only watch the shadows on the wall.”

Sir James reverted to Plato's image of the shadows “to explain the inconsistencies in the present theories of space and time.”

Just as the shadows on the wall form the projection of a three dimensional reality into two dimensions, so the phenomena of the space-time continuum are four dimensional projections of realities which occupy more than four dimensions.

Sir James elaborates this idea in his book *The Mysterious Universe*. Many of the later publications on physics, relativity, the higher mathematics, etc., sound a similar note. In other

words, modern science and philosophy are rediscovering God.

To make clearer what all of this implies another hypothesis may be helpful. Let us suppose that man in his present life is under a sort of hypnosis—self-hypnosis, if you will. This dream state is induced by his special form of mind action that we call intellect, and has to do with the universe relative to man's present mode of functioning. Because of our specialized forms of sense reaction responding only to certain bands of frequencies, or of wave motions, in the ether of space, this universe is phenomenal; that is, comes to us as a show or appearance. It seems to be solid or material, in order that man may act upon it, cut tools out of it, etc. In other words, the suggestions that come to us in our state of hypnosis concern a material world that is independent of our thought and to which we are subject. So long as our dreams are normal this is all well and good, but we may get warped or delusive ideas, fixed notions, complexes, which result in defective or abnormal states of thought, and of manifestation. These we call disease. So identified are we with our organism and with this hypnotized state of our thoughts that these things seem real to us, whereas they are but a part of the dream or the hypnosis. How happy it would be were there some cosmical operator who could suddenly cry, "Right," and snap us out of it. Then we should discover that it had only been a bad dream and that we are as we always have been, a part of

God's perfect idea, spiritual beings in a spiritual universe, like the man in the story, *The Sleeper Awakes*.

None of these analogies, or figures, is perfect, but they indicate the truth, or, at least, point the direction in which truth may be found. As Bishop Berkeley indicated, the Universe is God's action and man's picture and concept of it represent his reactions to this Divine activity. Because God is infinite His forms of manifestation are infinite. They represent every possible level and variety of life.

It may help us to think of each individual as a monad. This monad plus its environment makes up the universe. It not only represents the universe but corresponds to it. It knows itself by knowing its other, or to put it differently, it comprehends its own nature by comprehending the cosmos. It is infinite in potentiality and essence but only realizes this universal element within by realizing that without. This is a progressive or evolutionary realization, that runs the whole scale from nothingness to the absolute or from zero to infinity. The monad thus passes through degrees, in which it retains its own identity as a particular self or personality but in which it also realizes its universal quality through knowledge, thought and action.

In his great book, *Appearance and Reality*, Mr. F. H. Bradley proves by logic that there is nothing real except the Absolute and that this is not many but one. This is not a frozen Absolute, not a dead level of uniformity, not a mere

being in which there are no distinctions, not a "night in which all cows are black," but a universe irridescent and luminous in which the beauty of variety is brought out in vivid distinctness, containing all the multifarious glory of the living universe, but which is yet harmonized and included in the One-Life. Aside from the Absolute all else is appearance even including the self and self-consciousness, all these are reflections, representations or shadows of Reality, adulterated with nothingness, chaos, confusion and defect. They are ever striving more closely to attain to the Real, however, and this begets motion in them, change and becoming. This is also the basis of thought which is ever seeking also to comprehend more fully and so long as it fails to do this it is still merely thought. But when it succeeds completely in understanding or comprehending its subject, it passes over into it, ceases to be thought and becomes the thing in itself. It then incarnates, identifies itself with the thing, ceases to be mere thought and ceases to be conscious since it is no longer practical or necessary that it be so. In other words, its other exists only so long as not completely known. When it is perfectly known, it ceases to be Other and becomes the self. God is Other to us only so long as we do not entirely know Him. When we do so know Him He becomes one with us. The seeming opposites are caught up into a higher unity. It was Him we were seeking all the time for there is no other. We sought Him in our brothers and tried to

know and so to merge with and possess them. We sought Him in nature and in revelations where He was represented. When we completely know ourselves, we are That, as the Hindoos say. The more perfectly we know and represent Him, the less defect is in us and the less of pain and negation. There is only the Absolute and we are only real so far as we incarnate the Absolute. Christ knew this and so could say "I and the Father are one." This is true of all of us and is the only Truth. The world is only other to us, objective and material because we do not perfectly know it. The moment we do know it in all its detail, it is spiritual and subjective. It is only the mechanism through which thought manifests and acts. When we transcend the duality and the illusion, we are in Nirvana. We have ceased to pass through the rhythm of motion, of birth and death, and have emerged into the Truth and Liberty of our real selves, or rather of our real Self, for the sense of separation belongs to the illusion. "The dewdrop slips into the shining sea." The prodigal has returned unto his Father's house.

We are God's thinking, not God thinking, for the Universe is not a series or a multiplicity but a unity. We, as seemingly separate and independent, are derivative and representative. "Thou shalt have none other gods before Me."

In this whole series of studies we have been discovering God. The supreme need of the world today—and by the world we mean all nations and all departments of human life—is to

know and relate itself anew to Him. He alone can heal individuals and nations; He alone can unify mankind and establish peace; He alone can give us a starting point from which to interpret and build a greater science, philosophy and religion that will be deep and broad enough to fit this new time into which we are now entering. Having found God let us use Him as our point of departure, as the great corner stone of our structure, the first premise of our deductive system. We start, then, with God Transcendent. In all religious systems and most philosophies we are told that His first expression is the Word. "In the beginning was the Word and the Word was with God, and the Word was God." We have called this form of the Divine expression God immanent. In other words, this is God incarnating Himself as the great first cause of the universe. He becomes His other, or representation, the objective pole of the Divine Mind, which in turn becomes the Great Unconscious or basis of the habit mind, Law or Mechanism of the universe. In other words, God thinks Himself into an Infinite expression which becomes the Word. Since this expression must have all possible variety it becomes the many. God thus gives forth an infinite number of emanations or monads, each being the representation or image of Himself. These, however, are all unconscious or potential since they are not yet objectified and, therefore, cannot know themselves, because they cannot know their other. Then, the universal process starts, first in building the

physical universe, next in evolving a universe of life and finally in perfecting a universe of self-conscious human units. In this process we find correspondences or analogies, also the dialectic method of polarity caught into unity. In the very beginning polarity appears in the proton and the electron, which correspond to the thesis and the antithesis of thought. God's action or will appears first as union which catches up these two apparent opposites into unity, this unity being the atom, or the building block of the physical universe. In the way of this dialectical method this synthesis becomes the thesis of a new step upward. Our next polarity is between the physical universe and the psychical, and the result here is the cell, the building block of the universe of life. We can carry this method out further—almost as much further as we like. The third great triad in the human world might be called the man and the woman, whose union or synthesis constitutes the home, which becomes the building block of the sociological structure, or the beginning of God's Kingdom on Earth.

Aristotle's teaching was that we only know a thing in its outcome, or end. We have already seen that the Word became creative mind—*anima mundi*, soul of the world. In the beginning this was the great unconscious, or the mind manifesting itself in nature and in the creatures, but at the long last it becomes man. Natural man is not its highest or final expression, however, for he does not realize God's idea, or full

purpose. This only becomes manifest in Christ, the perfect or spiritual man. Thus it is absolutely correct to identify Christ with the Logos or Word. He is the perfect fruit of the creative process, and He is God's realization of Himself as the God-Man made in His image, the human prototype and final fruit of the absolute idea. Thus the coming of Christ made a new era in the human world just as the coming of man made a new era in the universe of life and the coming of life made a new era in the physical universe. Each of these are steps on the stairway leading to God. Each of these are new scenes in the Divine drama, new levels in the ascending evolution.

Thus it is our healing is through Christ, and thus it is that the new civilization, the coming of man to himself, the awakening of the sleeper, takes place through the Christ. We know ourselves in Him, know ourselves as the children of God. We are awakened from the dream of the material, of limitation, and of the self-hypnosis of the intellect, and of specialized and relative modes of thinking, by knowing ourselves even as we are known in Christ.

The only path through which the monads could ascend was that of the self, or self-consciousness. This has been both our prison and our liberator. It is in the self that all error and sin have arisen, all disease and death. In order that we might not be fixed in our organism, and in our complexes, we have had to pass through the rhythm of life and death—death to

free us for a new adventure, and life to objectify us into a new experience. At the long last, however, we are now transcending this limitation and are beginning to see that the whole process is one of life, life vibrating between subjective and objective, or between the two planes of being, just as all energy vibrates in its ascent to higher forms of energy, or manifestation. Man's cure is the absolute idea that is his Creator, that is his Reality, that is Himself. The sleeper is awake and the hypnotic dream vanishes with the shadows of the world of appearances. Man looks upon the sun and knows Reality.

Our adventure is over, we have found the One. There is no Other. This One is the many; this One is the universe of life; this One is our beginning and our end, our Creator, our Healer, our Savior, our Immortality. Only so much of us as belongs to His goodness, His truth, His beauty, His perfection, survives the "wreck of matter and crash of worlds." All the rest belongs to the dream and the hypnosis, the appearance, the dance of shadows. God is and we are in Him.

The way to Him and the way to health and happiness is not alone through our specialized form of mind action known as intellect, but more especially through the forms of mind action such as intuition, imagination and faith. We find this truth represented in the universal religion of mankind and in science and philosophy as well. We discover the clue in man's speech, in the very root words of his language. We discover it in the

traditions of all civilizations and in the vision of all hearts. God has not left us without reminders of Himself, without answers to the riddle of life.

After all it is the practical test that counts. We go back to that. We know a thing through its use. The highest philosophy in the end comes to that which belongs to the practical and to the common sense of the race. As a summing up of our adventures from this phase we find these net results:

We cannot account for the physical without recourse to the spiritual universe. Mechanism presupposes mind as its inventor and operator. Everything points to God and all the new sciences, as well as physics and mathematics, are ever becoming more harmonious with religious and philosophical idealism. In this study we have scrutinized the new factors in human knowledge and have found that science, quite as much as religion, reveals God. In our adventure we have really invaded new territory. We have discovered the mystery of the lever and of gravitation, seen something of the nature of energy, and have even caught glimpses of the creative process itself. We have seen God in Nature, have gotten a more rational view of the identity of the Logos, have seen Christ as His perfect fruit and revealer to man, and have discovered anew Christ's healing and regenerative power in the soul. We came to study science and end by studying spirit, love, life, truth. What have we learned? For one thing we have

learned with Plato, with Hermes and with Jesus that the universe begins and ends with thought, that laws are the eternal purposes of God, that man can co-operate with God and vastly accelerate the operation of natural laws, that man can share with God something of His creative power and heavenly joy; and that, if we will, our adventure in truth may continue throughout the ages, ascending ever to new goals of understanding and realization.

The highest common denominator of the universe is action. We know in order that we may do. God's action and our reaction constitute the cosmos.

The need of this age as of all ages, is to know God and knowing Him is life, health, happiness and heaven.

THE END